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ABSTRACT

The purpose of this study was to test the reliability and validity of an instrument designed to measure the dramatic and sociodramatic play activity of young children. A total of 31 children were selected from early education programs on the basis of sex and socioeconomic status. The spontaneous classroom dramatic play behavior of each child was videotaped and subsequently rated using a play measurement instrument developed for the study. Demographic correlates and intercorrelations among 11 behavior items in the play rating instrument indicated that the instrument was highly reliable. Its construct validity in relation to external variables was only partially confirmed. As hypothesized, most items correlated significantly and positively with socioeconomic status, overall dramatic play quantity, and the ratio of sociodramatic play quantity to overall dramatic play quantity. Only two of the items correlated positively with age. Sex differences were found on only one item. Findings on sex differences were contrary to predictions. Furthermore, items of the instrument did not cluster precisely as predicted. Two basic factors were identified and labelled 'sociodramatic play items' and 'individual dramatic play items.' Further research aimed at identifying relationships between play scores and various cognitive variables is recommended for the purpose of further validating the rating system. (Auhtor/RH)

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The Validity and Reliability of an Instrument to Measure the Dramatic Play Abilities of Young Children

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Abstract

The purpose of this study was to test the reliability and validity of an instrument designed to measure the dramatic and sociodramatic play activity of young children. This was accomplished through an examination of intercorrelations among and demographic correlates of the eleven behavior items included in this play rating system.

Thirty-one children were selected from local early educational programs on the basis of sex and SES. The spontaneous dramatic play behavior of each child was videotaped within the classroom. This play was rated using the play measurement instrument developed for this study. Statistical analysis was conducted to test the hypotheses of the study concerning interrelationships among play items and relationships between each such item and a variety of independent variables.

The reliability of this instrument was found to be high. Its construct validity in relationship to external variables was only partially confirmed. Most items correlated significantly and positively with SES, Overall Dramatic Play Quantity and also with the ratio of Sociodramatic Play Quantity to Overall Dramatic Play Quantity, as hypothesized. Only two of these items, however, correlated positively with age. Sex differences were found on only one item. These latter findings were contrary to the predictions of the study.

The items of the instrument did not cluster together precisely as proposed. Two basic factors were identified. These were labelled Sociodramatic Play Items and Individual Dramatic Play Items.

It was recommended that further research, aimed at identifying relationships between play scores and various cognitive variables, be undertaken to further validate this rating system.

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CHAPTER I

INTRODUCTION

It was the purpose of this study to test the validity and reliability of an instrument designed to measure dramatic and sociodramatic play activity of young children. Such an instrument, if valid and reliable, would prove useful in the exploration of possible relationships between this form of play behavior in children and a variety of educational and developmental variables of interest to researchers and educators.

Background of the Problem

While early childhood educators have long considered play a crucial activity in the life of the developing child, a review of research and theory reveals much disagreement as to how it is to be conceptualized or measured. A discussion of previous efforts to define play activity in human children is organized here into an examination of both constitutive and operational definitions, as distinguished by Kerlinger (1973). The former includes theoretical definitions, those in which a variable is described in terms of other constructs. The latter includes those definitions most often sought in empirical research, in which a variable is defined according to how it will be measured. This discussion is intended to highlight the lack of consensus among theorists and researchers in the field as to how play ought to be defined. It reflects the major theoretical and methodological difficulties encountered in previous attempts at such definition.

In a final section of this review, a number of demographic correlates of play, identified through previous play research, are considered.

Constitutive Definitions of Play

The earliest attempts at a theoretical definition of human play behavior sought merely a single, sweeping description of such activity and a determination of its causes among human impulses, instincts, attitudes and genetics. In Schiller's (1875) early work, for example, play was viewed as the expenditure of surplus energy left over after one's life's work has been completed. Patrick (1916), in contrast, defined play as an activity which re-energizes or restores an individual fatigued by the daily pressures of one's occupation.

Groos (cited in Piaget, 1962) proposed that play is the practice of instinctual urges which have emerged in the child, but for which he has no immediate use. Play, to Groos, thus serves as an essential training activity in which certain behaviors become refined before they are needed in adult life. Hall (1928) described play as an inheritance from man's primitive ancestors. A child develops, according to Hall, through various primitive play forms, such as those of animals or tribal societies, before reaching a stage of civilized adult activity. Mitchell (1948) defined play as any activity which satisfies one's need for self-expression. To Mitchell, then, play may be manifest in any human activity.

While such theories are of great interest philosophically, they fail to describe the specific attributes which embody play activity or to take account of the wide variety of play forms that may be observed in young children.

Later play theorists, however, focused on these various play forms and the functions of each in human development. Piaget (1962), for example, identified three distinct play forms through which a child develops, each making quite different contributions to that child's growth. Practice play, the earliest to appear, he proposed, is pure assimilation and involves the practice and mastery of previously learned sensori-motor behaviors. Symbolic play, emerging around the second year, involves the child's first distinction between a symbol or "signifier," and some other object or activity, that which is "signified." Thus, such play becomes early practice for the young child at representational thought. At around eight years of age, Piaget suggested, a child will begin to engage in games with rules. Such he defined as the equilibrium between pure assimilation and the social life of the individual, and reflects an increased understanding and interest in one's social relationships. Numerous other theorists and researchers have adopted and elaborated upon Piaget's proposed play forms. Smilansky, for example, devoted much attention to dramatic play, or Piaget's symbolic play form.

Operational Definitions of Play

Researchers have attempted to define play in measurable terms, as well. Again, many of these attempts have failed to make distinctions among various play forms. Boynton and Ford (1933), for example, in a study of the relationship between play behavior and I.Q., operationally defined play as children's own ratings of the amount of "playing" in which they have engaged over a period of time. Lieberman (1965), in her investigation of the relationship between play and divergent thinking, operationally defined playfulness as a rating of "spontaneity," "manifest joy" and "sense of humor" in children. Others, however, have made distinctions among play forms in their research. McCall (1974), for example, in examining the influences of various physical stimuli upon children's exploratory play behavior, operationally defined this play form as the time spent visually fixating upon or manipulating an object in one's environment.

Operational Definitions of Dramatic Play

A number of researchers have distinguished dramatic or sociodramatic play from other play forms for examination. A most thorough definition of dramatic play behavior, for example, has been devised by Smilansky (1968). In her study of the play of disadvantaged Israeli children, she adopted six criteria for "good" dramatic and sociodramatic play activity. These are: Make Believe (in regard to objects), Make Believe (in regard to situations), Play Persistence, Role Playing, Interaction and Verbal Communication. Children were categorized as "good" or "bad" players based on the presence or absence, in their play, of each of these six criteria.

Lewis (1972) refined Smilansky's instrument, utilizing a rating of 0 to 3 for each criterion during each five minute observation period, providing a higher-level measurement scale.

Correlates of Dramatic Play

A number of relationships between play and cognitive and demographic variables may be predicted, based upon observation, theory and some research done in the field. There is reason to believe, for example, that there is a positive relationship between play and various measures of intellectual development, as Piaget has proposed. Lewis (1972), for instance, reported a relationship between the presence of certain sociodramatic play elements and performance on picture-reading and free association tasks. Further research points to a relationship between dramatic play behavior and language development. The theoretical work by Cazden (1974), for example, hypothesizing such a relationship, has been supported by the findings of Smilansky (1968), Lewis (1972) and Griffing (1974).

Of importance to this study are a number of proposed relationships between dramatic play and various demographic variables. Sex, age and socioeconomic status appear often in the literature as correlates of dramatic play behavior. Smilansky and Lewis both found female play to be of higher quality than that of males. Smilansky's findings, further, support the reports of many observers that the quality of the dramatic play of children increases with age. Finally, Smilansky, Griffing and Eifferman (cited in Griffing, 1974) have all reported less and lower quality dramatic play activity in children of lower socioeconomic status families. These factors would likely positively correlate with scores on a valid measure of dramatic play behavior.

Need for the Study

These previous efforts at the measurement of dramatic play have been impaired by a number of theoretical and methodological weaknesses. First, these earlier attempts have failed to consider the quantity of dramatic and sociodramatic play activity within the spontaneous play of children as an independent crucial element to be assessed in an adequate play measurement system. Second, earlier researchers have limited their measurement to the basic, definitive elements of sociodramatic play, such as role taking or make believe. They have ignored a variety of play content elements, such diversity of roles, in their play rating systems. Third, previous measures of play have not been designed for use in real-life, non-laboratory environments. This threatens the external validity of findings yielded by such instruments. Finally, play researchers have not often provided ratio-level measurement scales, which would be more sensitive to quantifiable differences among individuals, and allow for a more meaningful correlation with various continuous social, emotional, cognitive and educational variables of interest to educators.

An instrument is needed, then, which circumvents these short-comings by including ratio-level measures of a wide variety of the play quality and quantity elements identified within the play literature. Such an instrument must be designed for use within a real-life classroom setting. It ought to be an elaboration and improvement upon these previously-developed instruments, borrowing the strongest points from each.

In general, the development of a more sophisticated play measurement instrument would contribute much insight into the nature and functions of dramatic play behavior, and promote consensus among researchers and educators as to its precise definition.

Such an instrument has been presented in this study. The following questions, concerning the instrument's utility in play research have been considered:

1. Is the instrument reliable in its measurement of the quality and quantity of dramatic and sociodramatic play activity of young children?

2. Is the instrument valid in its measurement of the quality and quantity of dramatic and sociodramatic play activity of young children?

Hypotheses

The following hypotheses were tested in the study:

1. The quality elements considered here will be positively related to one another, and will cluster together into the following three groups, relationships among items within clusters being stronger than with those among items of different clusters:

    a. Cognitive Dramatic Play Items: Make Believe (in regard to objects), Make Believe (in regard to situations), Play Persistence and Individual Dramatic Play Quantity

    b. Social Interaction Items: Verbal Communication, Social Interaction, Play Leadership, Cooperative Play Behavior and Sociodramatic Play Quantity

    c. Role Items: Role Diversity and Role Complexity.

2. The correlation between Overall Dramatic Play Quantity and all eleven play items will be high and positive; with the highest correlation existing between quantity and Cognitive Items, a slightly lower correlation between quantity and Role Items and the lowest correlation, though still positive, between quantity and Social Interaction Items.

3. The proportion of Sociodramatic Play Quantity to Overall Dramatic Play Quantity will have a high and positive correlation with all nine play items.

4. Scores on each of the eleven play items will be highly, positively correlated with age.

5. Scores on each of the eleven play items will be highly, positively correlated with socioeconomic status.

6. Females will have higher scores on all eleven play quality and quantity items than males.

Foundations of Construct Validity

The hypotheses of this study were aimed at testing the construct validity of an instrument designed to measure dramatic play. This section presents the theoretical framework upon which these hypotheses were based.

The overall quality of dramatic and sociodramatic play activity in young children has been viewed as the composite of competence in a wide variety of specific behaviors. In the instrument tested here, eleven of the most important of these behaviors were assessed. They were: Make Believe (in regard to situations), Make Believe (in regard to objects), Play Persistence, Role Diversity, Role Complexity, Verbal Communication, Social Interaction, Cooperative Play Behavior, Play Leadership, Sociodramatic Play Quantity and Individual Dramatic Play Quantity. Careful theoretical consideration of these eleven play items has led the author to a number of hypotheses concerning the relationships among them. It has been proposed, first, that all of these items will be highly, positively related to one another. Second, it has been hypothesized that these items will cluster into three basic groups, with items within each group having a stronger relationship to each other than they have with items of other clusters.

The first cluster of items has been labelled Cognitive Dramatic Play Items. Included here are the elements which serve as indicators of an individual's capability at the fundamental cognitive mechanics of such play activity. These items are: Make Believe (objects), Make Believe (situations), Play Persistence and Individual Dramatic Play Quantity.

A second cluster of items are those which indicate the quality of an individual's social interaction during dramatic play. This cluster has been named Social Interaction Items, and includes Verbal Communication, Social Interaction, Cooperative Behavior, Play Leadership and Sociodramatic Play Quantity. While these items are related to Cognitive Play Items, according to this theory, they are more highly related to each other, serving to measure a quite distinct and more sophisticated form of play activity. These items reflect, for example, an individual's increasing understanding of and skill and interest in social relationships and interaction.

A third cluster of items has been called Role Items. These items, which measure the richness of an individual's play theme, are: Role Diversity and Role Complexity. While these items are related to Cognitive and Social Interaction Items, they are more closely related to each other, indicating an individual's ability to formulate a variety of complex roles during play sessions.

Scores on any of these eleven items were derived only from behavior which was performed within the context of a dramatic play setting. Such a setting has been defined as one in which an individual plays out a make-believe role.

The Relationship Between Play Items and Quantity of Play

It has been proposed here that Overall Dramatic Play Quantity, which is the total number of minutes in which an individual engages in any form of spontaneous role-playing behavior, is highly related to all eleven play items.

This quantity score is strongly correlated with Cognitive Items, less strongly with Role Items, and least strongly, though still positively, with Social Interaction Items. These differences in strength are due to the variety of extraneous variables which also contribute to the variance of scores on these latter two sets of play items. Role Items, for example, depend not only upon practice (i.e., quantity) at formulating complex roles; but, as well, upon the child's past experiences from which play themes are selected. Social Interaction Play Items, too, are shaped not only by practice at play, but also by a variety of social experiences in non-play settings. Cognitive Items, however, would seem to be most strongly influenced by the amount of time in which these four items were directly practiced in a play setting.

It was further postulated in this study that Overall Dramatic Play Quantity, is comprised of Individual Dramatic Play Quantity and Sociodramatic Play Quantity. The former has been defined as time spent role playing without interaction with other players. The latter item was conceptualized as time spent in the performance of dramatic enactments which include others. A final hypothesis proposed here was that the proportion of Sociodramatic Play Quantity to Overall Dramatic Play Quantity, would have a high, positive relationship to all eleven play items. In other words, the higher the quality level of a child's play, the greater would be the portion of his play devoted to role playing with others.

Figure 1 depicts the relationships proposed above. The length of the line between factors indicates the projected strength of the relationships. These proposed relationships have been reflected in Hypotheses 1, 2 and 3 of this study.

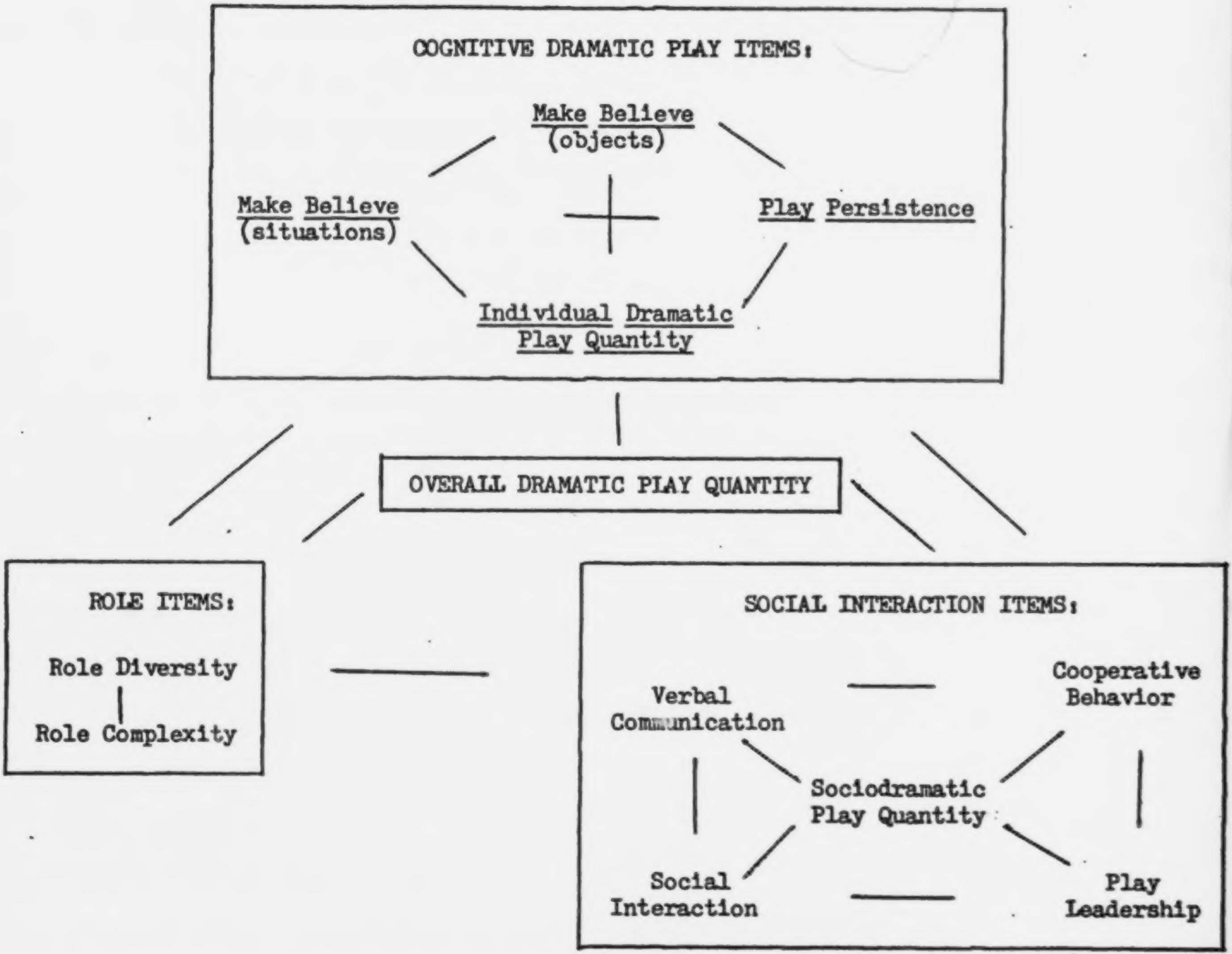
COGNITIVE DRAMATIC PLAY ITEMS:
Make Believe (objects)
Make Believe (situations)
Play Persistence
Individual Dramatic Play Quantity
OVERALL DRAMATIC PLAY QUANTITY
ROLE ITEMS:
Role Diversity
Role Complexity
SOCIAL INTERACTION ITEMS:
Verbal Communication
Cooperative Behavior
Sociodramatic Play Quantity
Social Interaction
Play Leadership

Figure 1: Hypothesized Theoretical Play Model.

Demographic Correlates of Dramatic Play

In order to establish the construct validity of this play measurement instrument in relation to external variables, possible correlates of dramatic play were identified, and the association of these to scores on this measurement scale tested. A number of these correlates have been suggested by the previously-cited work of Smilansky (1968), Griffing (1974) and Eifferman (cited in Griffing, 1974), in which females, older children and higher socioeconomic status children were found to demonstrate greater amounts and higher quality dramatic play activity. It has been proposed here, then, that these three groups would have high scores on this rating system as well. This proposition has been reflected in Hypotheses 4, 5 and 6.

Definitions

The following definitions were adopted for the study:

1. Dramatic Play: Any activity in which an individual's primary activity is the enactment of a make believe role. This role may be expressed verbally or demonstrated through imitative action. The role may be that of another person, animal or object; or may be merely oneself in a make believe setting.

2. Sociodramatic Play: Any dramatic play which involves the interaction of two or more players.

3. Individual Dramatic Play: Any dramatic play which is performed by only one individual, with no other players involved in the play theme.

4. Cognitive Dramatic Play Items:

    a. Make Believe (in regard to objects): The frequency of movements or verbal declarations used to symbolize real objects which are not present in the physical environment. A frequency point will be awarded for each object symbolized. Use of replicas to stand for real objects will be included.

b. Make Believe (in regard to situations): The frequency of verbal declarations used to create pretend situations which relate to an individual's role. Included are all statements which set the stage within which play occurs.

c. Play Persistence: The number of roles played that exceed five minutes in length. For roles that exceed ten minutes in length, one point will be awarded for each five minutes period, over the initial five minutes, in which the same role is continued.

d. Individual Dramatic Play Quantity: The number of minutes of individual dramatic play in which an individual engages in a given period of time.

5. Social Interaction Items:

a. Verbal Communication: The total number of grammatically complete utterances made by an individual while enacting a role. Verbal instructions or declarations of role or setting, as well as statements made in the enactment of a role, will be included.

b. Social Interaction: The number of players with whom an individual interacts during each role performance. Interaction was defined as verbal exchange or physical contact with another. A player was counted only once per role enactment. If the individual observed changed roles during the observation period, however, his interaction with those previously counted were recounted.

c. Play Leadership: The number of accepted suggestions for modification or expansion of the setting or another's role put forth by a child, which are accepted by other players. Acceptance was defined as eventual adoption of the suggested change without such severe disagreement as to result in the dissolution of the play theme.

d. Cooperative Play Behavior: The number of suggestions for modification or elaboration of the setting or one's role proposed by others which were accepted by an individual.

e. Sociodramatic Play Quantity: The number of minutes of sociodramatic play in which an individual engages in a given time period.

6. Role Items:

    a. Role Diversity: The total number of different roles in which a child engages, excluding repetitions.

    b. Role Complexity: The number of different enactments played by a child within each role. An enactment was considered any activity which a child, in playing his role, actually performed. For example, a child, playing "Daddy" might drive the car, sit down for dinner, wash the dishes, put the baby to bed and answer the telephone; thus, completing five enactments during this role.

7. Overall Dramatic Play Quantity: The summation of Individual Dramatic Play Quantity and Sociodramatic Play Quantity.

Rationale for Adoption of Play Measurement Items

The play quality elements used in this study were intended to reflect both the character and content of the play behavior. Elements 4a, 4b, 4c, 5a and 5b, listed above, are modified forms of four of Smilansky's (1968) sociodramatic play criteria. The major refinement to her original items has been that they are here defined as frequency scores representing the occurrence of specific play behaviors, rather than the more general and subjective evaluation of these which Smilansky has used. Elements 5c, 5d, 6a and 6b were developed for this study, based upon Smilansky's observations of differences in play between advantaged and disadvantaged preschool children. Each child of the latter group, deemed, generally, a "poorer" player, was found, in these observations, to engage in less social play, to enact fewer roles, to be more likely to be assigned a role by a single play leader than to invent one himself, to engage in less democratic decision-making during play and to demonstrate fewer episodes within a role, than the advantaged child. These six play quality elements were designed to reflect these trends.

Limitations

The following were the primary limitations of the study:

1. The study was of an Ex Post Facto design, rendering the findings less certain than those obtained through experimental study.

2. The design did not allow for testing cause and effect relationships among variables considered.

3. Videotaping, which could influence the play behavior of childdren observed, was used in gathering data.

4. The study was undertaken within the classroom; which weakened the precision of measures, due to classroom noise, teacher involvement in the play of children and other factors.

5. Only two raters scored all play items. A built-in correlation among items scored by the same rater likely influenced these research findings.

6. One rater in the study was also the researcher who generated the hypotheses tested here, creating the possibility of further rating bias.

7. The investigation was limited to subjects from a small, midwestern city.

8. Subjects were purposively selected on the basis of sex, SES and program enrollment and, thus, were not randomly chosen.

CHAPTER II

REVIEW OF RELATED THEORY AND RESEARCH

The purpose of this study was to develop a valid and reliable instrument to measure the dramatic and sociodramatic play behavior of young children. Such an effort has required the careful examination of earlier theoretical and empirical work in the field, which has focused upon the definition and measurement of play, and the identification of its various cognitive, educational and demographic correlates. This chapter provides an overview of these previous efforts.

The review is organized into a discussion of both constitutive and operational definitions of play, as distinguished by Kerlinger (1973). The former definitions are those theoretical efforts in which play has been described in terms of other constructs. The latter are those definition which describe play according to how it will be measured.

In a final section of this chapter, findings yielded from studies utilizing these various definitions, which indicate possible relationships between play and cognitive and demographic variables, are considered.

Constitutive Definitions of Play

Jackson and Angelino (1974) identified, within the play literature, two broad groups of play theorists. These are the classical theorists, who are characterized by a concern for developing broad and sweeping definitions of play and determining its causes, and the dynamic theorists, who were interested more in the various forms which play takes, how these change as an individual develops, and in what ways they function to promote human growth.

Classical Theories of Play

The earliest attempts at a theoretical definition of human play behavior sought a single, all-encompassing description of such activity and a determination of its causes among human impulses, instincts, attitudes and genetics.

Schiller (1875), for example, one of the earliest classical theorists, proposed that play is the result of surplus energy, left over after an individual has expended the energy necessary for the "work" of self-preservation. Since children have life-sustaining work carried on for them and need not commit any energy to this endeavor, he explained, they are forever in a state of play. Spencer (1873), too, adopted this surplus-energy theory, specifying the cause of play as the readiness of unfired nerve cells to respond to the very slightest stimulation.

Later, Schlosberg (1947) espoused a similar viewpoint in fitting the phenomenon of play into a stimulus-response model. Rested animals, he contended, hold very low "threshholds of response," and, thus, are moved to play-like activity by extremely weak and unimportant stimuli. The surplus-energy theorists, however, differed markedly in their explanation of the motivation for play. Spencer, for example, viewed the urge to play as an instinctual one, while learning theorists would contend that the continuation of such activity is induced by reinforcement from a variety of obscure sources.

A number of questions have been raised concerning such theories (Mitchell, 1948). How is it explained, from these perspectives, for example, that a child engages in highly active play, though sorely fatigued? In the consideration of adult play, why is it that the business executive or laborer takes to the golf course or bowling alley after a hard day's work? In response to such questions, Patrick (1916) proposed a "relaxation theory," which holds that the animal, drained of energy, engages in play to be restored and re-energized. Specifically, he suggested that the use of mental facilities and small muslces in the day-to-day life of most humans is extremely taxing. Play, relying more upon the use of large muscles, serves as an escape from such activity. Essentially, he described play as the instinctual return to the large muscle activities of primitive ancestors.

Two major shortcomings may be identified within Patrick's theory. First, it fails to explain the play behaviors of those engaged in occupations requiring large muscle activities, such as those of the construction worker or laborer. Second, his theoretical perspective cannot account for a variety of quiet, less active play forms. Are puzzle-making, coloring with crayons, or playing checkers not to be considered play activities?

Piaget (1962, pp. 150-152) reviewed the "pre-exercise" of Karl Groos, whose work appeared as early as 1896. Groos' theory was among the earliest to recognize play as an important function in the development of the human child. He defined play as the practice of instincts which have emerged in the child, but for which he has no immediate use. Thus, play becomes an essential training activity in which certain behaviors become refined and polished before they are needed in adult life. Piaget argued, however, that play is not pre-exercise, which promotes behaviors which will appear only later in adult life, but rather the exercise of existing intelligence. Play, to Piaget, is practice at actions useful to a child now, at this stage in his development. He argued that the content of play is merely the reconstruction, interpretation or expression by the child of past experiences, rather than a repetoire of skills which will be required in later adult life.

Hall (1928) viewed play as an inheritance from man's primitive ancestors. The child, from this view, develops through various stages of primitive play, including those of animals, and tribal and agricultural societies, before reaching a stage of civilized adult activity. This theory, however, fails to account for vast differences in play among children in various parts of the world or even within a given culture or family. This proposition, too, does not consider a host of environmental factors which tend to dictate various distinct play forms.

Mitchell (1948) defined play as any activity which satisfies man's need for self-expression. Play may be manifest in any human behavior and is identified only by the positive affect of a player which accompanies the activity. Since all behaviors are potentially play activities, from this perspective, however, the definition is relatively useless in the identification of play, or the determination of its causes and contributions within human development.

In general, in these initial attempts at the conceptualization of play, the effort has been to establish a single definition which encompasses play's many forms. Of greatest concern to later theorists was the failure of the classical perspectives to attempt an account of the wide variety of play forms that may be observed in children, or to consider the functions of these in the child's development. The next section reviews the work of these dynamic theorists.

Dynamic Theories of Play

The earliest of the dynamic theorists were those who recognized differences between imitative or role play and other play activity. Langfeld (1920), for example, distinguished imitative play from other forms, as a child's creation of imaginary environments which allow absolute success and mastery over situations. Imitative play was viewed here as an avenue of escape for the child from real-world failures, serving as an uncritical arena for the practice of newly learned behaviors.

This early viewpoint resembles Freud's (1948) proposition that play functions to restore to a child a sense of mastery and power over those situations which, in real life, he has no capability to control. To Freud, the primary motivation to play is a "power instinct" which fosters, in the child, a wish to grow up and to behave as grown ups do. He traced the transition of play-like activity from the make believe of young children, which he described as fantasy tied to objects, to pure fantasy, which replaces it in adolescence.

Another group of theorists have made distinctions, irrespective of specific play forms, between the solitary play of children and social play. Shotter (1973), for example, described social play as a highly complex interaction among individuals, which is governed by a host of social rules. Garvey (1974) identified various of these rules; defining social play, generally, as a network of non-literal behaviors, in which the activity of one player is highly contingent upon the activity of other players. Specifically, she identified a system of cues, such as smiles, giggles, exaggerated voices or gestures, which signal to players the beginning or end of play, and communicate other important play information.

A number of theorists have attempted more detailed and complete categorizations of children's play activity. These efforts have explored a wider variety of specific play forms in which children engage, and attempted the identification of those forms which are most predominant at various developmental levels. Mead's (1934) profound conceptualization of play, for example, included a distinction among "playing at something" (taking the role of another), playing games, and all other childhood activities. In early years, he proposed, a child plays at the various roles of the "vague others" around him. These roles are merely groups of responses at his access, "called out" in him by certain sets of internal stimuli. These roles are not organized in early childhood. To this extent, the child's self is not yet complete. Mead suggested that this stage is the crucial beginning, however, to the formation of a child's notion of self, as the child observes himself, even talks to himself, in his performance of another's role.

As the child enters into the play of games with rules, later in his development, however, he must adopt the rules of other players. These rules organize the various roles he must play during the game. Games become, to Mead, then, the initial organization of roles of a child into an integrated self. Generally, Mead viewed early role playing and games as essential to the development of the organized personality. The former activity served to provide access, through practice, to the various groups of responses that are roles. The latter served to first organize these roles according to the attitudes of others.

An even more complete categorization of play behavior has been provided by Piaget (1962), who adopted notions of both symbolic play (analogous to Mead's role playing) and games with rules, but who also introduced practice play, or the sensori-motor play characteristic of the human infant. Generally, Piaget defined play as an action resulting from the primacy of assimilation over accommodation. In the first two years of life, after a child has acquired a new schema, such as swinging, grasping or throwing, through the processes of assimilation and accommodation, that behavior will soon be practiced, according to Piaget, for its own sake. In such an activity the child is engaging in pure assimilation, or the exercise of previously existing schemas, without accommodating these schemas to novel external elements. Piaget named this activity practice play and proposed that it is the only form of play performed in the sensori-motor stage of a child's development.

With the emergence of symbolic thought, however, practice play gives rise to symbolic play, since the child is now no longer limited to the practice of schemas which relate only to objects present in the immediate environment. The child may now make use of objects in his play to represent those schema-relevant objects which are not present. Such play becomes early practice at symbolic representation, with the child's action becoming the "signifier," and this "deferred" schema which he is enacting becoming that which is "signified." At this stage, too, the schemas represented in play become increasingly borrowed from models which have been imitated, rather than from the child's own activity.

Piaget described the decline of symbolic play between the ages of four and seven or eight, and the emergence of games with rules. These were defined as activities in which there is competition among players, and which are regulated by rules passed down from previous generations or spontaneously invented and adopted by temporary agreement. Such play activity increases in frequency as the child becomes socialized. Game play is, to Piaget, the equilibrium of assimilation and the social life of the child. This last form of play, which is practiced into adulthood, is still the type of ludic assimilation previously discussed, but is tempered and legitimized by society.

Smilansky (1968, pp. 57-61) raised a number of critical questions concerning Piaget's theory. She reported that preschocl-aged disadvantaged children in her observations were engaged in games-with-rules without ever having participated in symbolic play. Thus, she has noted that these disadvantaged individuals, though certainly capable of representational thought, had not entered a corresponding symbolic play stage as Piaget proposed. She argued, then, against his notion of an invariant developmental continuum throughout childhood from practice to symbolic to game play.

Too, Smilansky questioned Piaget's emphasis on symbolic play as solely the assimilation of reality to one's ego. Rather, she proposed that the symbolic element in a child's play is also his attempt at active participation in a world in which his real life role is yet a passive one. Adopting a view similar to Freud's, she asserted that the symbolic play stage is a transition period from passive childhood to active adulthood.

The disadvantaged child, she concluded, who does not engage in such play, will not be as adequately prepared for integration into the real-life patterns of his environment.

Sutton-Smith (1967, 1972), too, argued against the interpretation of play as a purely cognitive phenomenon, rather than as an important developmental function in its own right. Though recognizing the importance of the underlying cognitive foundations of play, he stressed the need for the analysis of the structure and purposes of the child's game or play activity, itself. He proposed that each of a child's various play forms provides a unique contribution to that child's cognitive and affective development. Specifically, he proposed that all forms of playing increase the variability of responses to which a child has access when faced with real-life problems or situations.

The perspectives of both Smilansky and Sutton-Smith do not contradict the Piagetian framework, however, since their descriptions of symbolic play have focused upon the functions or purposes of play behavior within human development, while Piaget's emphasis was upon the cognitive mechanics of the play process. Symbolic play may be viewed as the predominance of assimilation over accommodation, but for the purpose of practicing adult activity which has been imitated from previously observed models, or for testing one's cognitive and affective powers.

Another major difference between the theories of Piaget and those of Smilansky and Sutton-Smith involves the learning value of play. While Piaget viewed play as the practice of previously learned behaviors or the novel combination of previously learned behavior, the latter theorists saw play as an important initial learning experience. These two viewpoints are compatible, however, if one views the human organism as capable of a variety of simultaneous mental processes at any one moment. A play action may be viewed as, at once, both the assimilation of reality to one's existing cognitive structures, and a meaningful interaction between the individual and his environment, through which intellectual development occurs. A child might practice previously learned behaviors in a play episode, but at the same time learn a new concept from another player, who is both a participant in the play theme but also an environmental element with which that child interacts, and from which that child learns.

Smilansky has chosen a more detailed categorization of play behavior than does Piaget. She provided a distinction between constructive and dramatic play within the symbolic play category. Further, she considered sociodramatic play as separate from individual dramatic play. Piaget argued against such divisions, in his analysis of Buhler's (1930) work. He suggested that construction play is identical in most respects to the representational activity of symbolic play, and that play among several players is the same essential cognitive activity as that of individuals. Nevertheless, he distinguished among these various forms in his account of the development of play in childhood.

Smilansky identified functional play as the earliest play form to be practiced by the child. This form is roughly analogous to Piaget's practice play, though she seems to have included some behaviors in this category which Piaget would not. She suggested, for example, that the child explores his environment during this activity. Such a description is similar to that of the "exploration" or "exploratory play" of children, defined by Weisler and McCall (1976). These authors defined this play form as any behavior which involves the sensori-motor examination of objects or events in one's environment in an effort to reduce "subjective uncertainty." Piaget argued against considering this curiosity-inspired activity practice play, as Smilansky has done. He proposed that such is not play at all, but rather, intelligent action involving the interaction of both assimilation and accommodation. Again, however, it may be argued that both intellectual and play processes are carried on simultaneously by the child in play.

Smilansky's second play form is constructive play, which appears later than functional play in the child's development. She defined this activity as the use of materials to create a final product. This behavior is goal-oriented, with the child organizing his play so as to achieve his own or an externally-imposed objective.

Smilansky equated dramatic play, her third form of play behavior, with Piaget's symbolic play. This acitivity she defined as creative role-playing, in which the child adopts the role of some other person. Again, Piaget would argue that dramatic play is only a specific instance of play within the broader symbolic play category. He included constructive play in this category as well. Given Smilansky's interest in the differential educational impact of various specific play forms upon children within preschool programs, however, her distinction between constructive and dramatic play seems to be an important one. Indeed, these two types of activity might provide quite different learnings for the preschool child.

Smilansky adopted Piaget's notion of games-with-rules, as the final play form within her theoretical framework. Like Mead, she proposed that this activity is crucial in that it requires a child to first control and organize his behavior according to the rules of others.

Like Shotter and Garvey, Smilansky saw an important distinction between the social and individual play of children. Specifically, she proposed that sociodramatic play, or dramatic play with more than one player, is the most developmentally advanced form of dramatic activity, and yields the greatest benefits to young children in a variety of cognitive areas.

In sum, Smilansky has built upon the work of a number of important play theorists, in constructing a very complete theoretical categorization of children's play behavior.

Sutton-Smith (1967, 1972) included not only exploration, construction play, imitative play (direct modeling of behavior), sociodramatic play and contesting (games), within his theoretical model, as previously-cited theorists have done, but also defined self-testing as play in which a child tests out his physical capabilities. Subsumed under this category are activities such as swinging, climbing, slide play or any such physically active childhood endeavor. This category appears a more general form of Piaget's practice play. It includes both this more primitive, repetitive infant play, but also the developmentally more advanced gross motor activities characteristic of the pre-operational and concrete operational stages of childhood development.

Another important contribution of Sutton-Smith to the field, however, was his identification of those play forms most highly influenced by culture. While exploration, self-testing and imitation are found universally in children's play, he contended, great cultural differences among children are found in the performance of construction, contesting and sociodramatic play. His conclusion was that skill at these latter play forms may be enhanced through practice and training in early educational programs. Such increased skill, in turn, brings about the myriad of developmental benefits accrued to childhood play.

Summary

The attempts at the constitutive definition of play have been classified here according to the degree of attention given the wide variety of specific play forms observed in the activity of human children, and the function of these in a child's development. The classical perspectives reviewed here rarely distinguished among these play forms. Within the dynamic theories, however, at least five categories of play may be identified. These include exploration, which is a direct learning process, and may accompany any of the other play forms; self-testing, or more specifically, practice play, which is repetitive motoric activity; constructive play, which is goal-oriented creation, and is included under the more general symbolic play category; dramatic play, which is symbolic play involving role playing; and games with rules, which is common among older children and adults, and is characterized by rules and competition. On another dimension, each of these play forms may be categorized according to whether it is a social or individual activity. Of particular interest to this study is the distinction between individual dramatic and sociodramatic play.

Operational Definitions of Play

A number of researchers, building often upon the work of these theorists, have attempted to define play in measureable terms. An overview of these efforts is divided here into three sections. An initial section includes an examination of efforts to develop a single measure of all play behavior. In a second section operational definitions of the various specific play forms, posited by the dynamic theorists, are considered. Finally, measures of specific play-related behaviors, such as imitative action or leadership behavior, are examined as important subconstructs to be considered in developing an adequate operational definition of that play form of most interest in this study--dramatic play.

General Play Measures

One of the earliest attempts to operationalize play behavior was that of Boynton and Ford (1933), who explored the relationship of general play activity and I.Q. They reported a positive relationship between the two constructs. Their measure of play, however, was based upon the children's own ratings of the amount of "playing" in which they have engaged over a short period of time. This measurement may have been unreliable, as each subject measured would likely define such activity in his own unique and different way. Nevertheless, the study was an important initial attempt to measure play and search for its correlates among cognitive variables.

Lieberman (1965) provided a more sophisticated measure of general play behavior, in her exploration of relationships between play and measures of divergent thinking. She operationally defined "playfulness" as a five-point rating on each of five traits: physical, social and cognitive spontaneity, manifest joy and sense of humor. Again, her measurement system made no distinction among specific forms of play in which children engage. She reported positive relationships between each play rating and their summation, and measures of divergent thinking (ideational fluency, spontaneous flexibility and originality). There is no evidence, however, that these psychological traits are related to the various play forms defined by Piaget, Smilansky and others.

Seagoe (1970) provided a measure of "play socialization," or the degree to which a child's play reflects the nature and complexity of social interactions characteristic of that child's own culture. High scores were awarded the child who engaged in more social play, competitive play, and play which is imitative of the adult activity of one's society. The validity of the instrument, based upon correlations of the play ratings and chronological age, was high. It is doubtful, however, that this instrument is a measure of actual play behavior, as scores were based not upon ratings of children's activities, but upon the written responses of these children to questions concerning their play. Again, no attempt was made here to explore differences in level of socialization reflected in the various play forms performed by children.

A very recent attempt to develop a measure of overall play quality was presented by Knox (1977). She observed the play of children at various developmental levels and provided descriptions of the types of play unique to six different age groups. The play rater, using her scale, observes a child and makes decisions as to the developmental level of his play in four different areas--space management, material management, imitation and participation. That child's "play age" in each area is determined and these figures averaged to yield an overall developmental play level. The reliability of the instrument, which is suspect due to the subjective decisions required of raters, was not reported. Further, no information concerning the validity of the scale was given. A weakness of this rating system, here again, is its failure to differentiate among the primary play forms.

Measures of Specific Play Forms

Many researchers have made distinctions among play forms. Some have distinguished between exploration and practice play in their research with infants. Collard (1971), for example, reported, in one study, less exploration and less complex practice play behavior among institutionalized infants than among middle-class, home-reared infants. She operationally defined the former construct as the frequency of manipulation of or visual fixation upon an object, and the latter as repetitive practice of schemas, such as banging, waving or dropping that object. Thus, she adopted a distinction between exploration and play which has been well-articulated by Weisler and McCall (1976) and also Piaget (1962). These authors viewed exploration as manipulative behavior for the purpose of reducing subjective uncertainty, and play as activity performed for internal pleasure, and not dominated by external environmental elements.

Switzky, Haywood and Isett (1974) adopted a similar, though more comprehensive, measure of these play forms, determining the frequency of six different types of exploration, as well as sensori-motor play and symbolic play. The scoring of the six exploration types required timing various behaviors involving tactually or visually exploring an object. Sensori-motor play was rated by timing the rhythmic bouncing, bending, rolling or throwing of an object. Symbolic play was scored by timing the use of objects to represent other objects not present. These researchers have developed, then, quantitative measures of these play forms, though no attempt in either study was made to determine the quality of these play types.

Many researchers have made a distinction among three major play forms--practice, constructive, and symbolic play. A number of the measures developed by these authors are, again, quantitative in nature. Amen and Renison (1954), for example, timed manipulative play or the practice play form defined by Collard and others. They also timed constructive play, however, which they defined as goal-oriented problem-solving play with objects, and imaginative play, or activity involving role playing or make believe. Their findings that children high on anxiety measures less frequently perform imaginative play and more often engage in constructive play tended to weaken Freud's theoretical proposition that imaginative symbolic play functions to reduce the anxiety of children in stressful situations.

Rubin (1977) adopted similar definitions of manipulative (or functional) play, constructive play and imaginative (or dramatic) play, but added games with rules, or activities involving rules and competition. Further, he added another dimension, degree of social interaction, to his play categorization. For each above play form, Rubin timed quantity of solitary play, parallel play (play beside but not with others), associative play (in which a child plays with others), and cooperative play (in which there is a highly defined organization and division of roles). With this rating system he discovered that lower SES children were more likely to engage in functional play, less likely to perform constructive play, and less likely to participate in any type of associative or cooperative play. No significant differences in dramatic play were found among the two groups.

Feitelson and Ross (1973) reported findings affirming a relationship between an increase in play level during a treatment period and improved performance on creativity tasks. They operationally defined high quality thematic (or symbolic) play as the frequency of behaviors which may be categorized in the upper play levels within their play taxonomy. Thus, children who have great portions of free play activity classified as "contentful play" or "combinatory play" (those play types which are representational in nature and revolve around a theme), are deemed the highest players. Those whose behavior falls primarily into the "pre-play" (exploration) or "production" (constructive play) classes are rated as lower quality players.

Wolfgang (1974) devised a similar rating system, describing these symbolic play levels through which children develop, and determining the time each subject has devoted to activity characteristic of each level.

His first level, Symbolic, is the very earliest play in which a verbal description of play objects is possible. This resembles the transition period, which Piaget described, between sensori-motor practice play and symbolic play. His Level II, Complex Symbolic, includes symbolic activities which involve at least three toys and are sustained at least for three minutes. His final level, Dramatic, is identical to Level II activity, but includes sufficient elaboration to allow the identification of a play theme. Wolfgang appears to have adopted here, as has Piaget, a general notion of symbolic play, which might include constructive activity or any other play behavior which includes the semiotic function.

The efforts to operationalize play heretofore presented are characterized by attempts at general descriptions of the major theoretical play forms, and the timing or tallying of all play activities deemed representative of each form.

Smilansky's Measure of Dramatic Play

Smilansky (1968), focusing upon the dramatic play of young children, has sought, in contrast, a more qualitative measure of play behavior. Instead of timing or counting the general incidence of practice, constructive, symbolic or game play activities, she has dissected one such form, dramatic play, into six quality components for examination. While observing children in dramatic play, then, she recorded the presence, partial presence or absence of these quality factors in order to assess play quality level. Her six criteria are: imitative role play, make believe in regard to actions and situations, persistence, interaction and verbal communication.

The imitative role play rating is based on the presence of role play behavior within a child's play activity. Make believe with regard to obejcts is scored according to the incidence of substitution of gestures or verbalizations for real objects. Make believe with regard to actions and situations is rated by observing such substitution of movements and speech for make believe situations or actions. Persistence is assessed by recording a child's persistence at a single play theme for more than ten minutes; Interaction is determined by noting a player's social contact with others during a play theme. Verbal communication is rated as "present" if some verbalization accompanies this social interaction. A "+" rating on Smilansky's scale identifies the presence of a given criterion, a "?" indicates partial presence, a "0" reflects the absence of that behavior. An "NP" indicates that no dramatic play was observed throughout the observation period.

For her analysis of data in her study, children were categorized as non-sociodramatic players if the engaged, at most, in only the role playing component of her play definition. Those classified as poor sociodramatic players were those who received +'s for role playing, interaction and no more than one other criterion. "Good" sociodramatic players were those who engaged in at least two criteria in addition to role playing and interaction.

She concluded from her study, using this instrument, that children receiving a special play training treatment enjoyed greater increases in play level than those in several control groups. Further, she reported greater increases among children who received the treatment, in scores on five measures of language maturity.

Though Smilansky's effort represents an important initial attempt to operationalize dramatic play quality, her measurement system contains a number of weaknesses. First her presence/absence rating is dichotomous, concealing differences among individuals on each criterion. Individuals demonstrating varying degrees of quality on a particular play element will yet all be assigned an equal rating, then, if such an element is present, even once, in each child's recorded behavior. Second, she has limited her measurement to basic, definitive elements of dramatic play. A number of other quality elements, many of which she herself has observed in the play of young children, might have been included in this instrument. She has observed differences, for example, among low and high socioeconomic status children in play leadership or diversity of roles. These components might have been operationalized and incorporated into her measurement system. Finally, her observation and rating methodology have not been thoroughly described or standardized. This weakens the reliability of her instrument.

A number of researchers have used Smilansky's measurement system. Lovinger (1974), for example, reported a positive relationship between an increase in scores on Smilansky's rating instrument, due to a play training treatment, and gains in scores on a verbal expression scale and "words-omitted" measure of language quality. Griffing (1974) utilized Smilansky's measure in replicating her findings in a study of disadvantaged American children. Such findings lend validity to Smilansky's instrument.

Lewis (1972) refined Smilansky's rating system, utilizing a rating of 0 to 3 for each criterion during each five minute observation period;

thus providing a higher-level measurement scale. Like Smilansky, she ignored play content factors, however, and failed to provide concise observation and rating instructions.

In summary, while some attempts to measure play have been focused on overall play behavior; and other efforts at specific play forms, such as practice, constructive, dramatic and game play; Smilansky has identified and operationalized specific sub-constructs underlying one form of play-dramatic play.

Measures of Sub-constructs of Dramatic Play

The focus of this study was upon the dramatic play behavior of young children. Smilansky has identified and operationalized six criteria for rating this childhood phenomenon. Other researchers have explored, in more depth, these and other important sub-constructs of dramatic and sociodramatic play. This section reviews these efforts.

Several researchers have sought to operationalize one of Smilansky's play criteria, social interaction within the play of children. Parten (1933) categorized measurement of social play into two types--measures of extensity, or the number of social contacts made by the child during play, and ratings of intensity, or the kind of interactions which a child has within the play group. Parten preferred the latter measure, since it reveals quality differences among interactions of children. She proposed a weighted intensity scale with six social interaction items. The first category is unoccupied behavior, in which a child is watching, but not in any way involved with other players. A second level of social play is solitary independent play, in which a child plays alone, completely independent of others. In onlooker play, her third category, the child merely watches others but often talks to players or asks questions. Category four, parallel play, is play behavior in which a child plays independently, but among others. Associative play, one of the highest levels, involves playing with other children. The highest social level of play, to Parten, is cooperative play, in which activity is highly organized and focuses upon a goal or the dramatization of adult life. A child's play may be assessed by assigning a -3 to +3 rating (according to his play level) to each time-unit of his play.

Advantages of measuring extensity of social play, however, are reflected in the work of Quilitch and Risley (1973) who reported increased social play among children who were provided toys of high social value. These measures of social play, including percentage of time playing with others and number of social contacts, require simple timing and tallying techniques, and less arbitrary and time-consuming categorizations by raters, than does Parten's measure. Strain and Wiegerink (1976) have used a similar method, recording and tallying "social" or "non-social" for each minute of a child's play, reporting an increase in social play yielded by a dramatic play training treatment.

Leadership behavior was among the interaction types, within the social play of children, which Parten (1937) explored. Parten assigned one of five weighted leadership ratings to children's behavior. These are: following (-2), independently pursuing own ends (-1), both directing and following (1), reciprocally directing (2), and directing (3). Her scale seems to confound two separate variables: following and leadership behavior. It is proposed here that two separate scales, one measuring leadership behavior and the other measuring cooperative behavior, or the willingness to be occasionally led by others ought to be developed. With this dual scale, a child might be awarded the highest rating for both constructs, thus reflecting overall democratic play behavior, which Smilansky describes as a positive feature of the play of advantaged preschool players.

Another play-related behavior for which measurement systems have been developed is role playing. Bowers and London (1965) have developed the Dramatic Acting Test (DAT) and the Hypnosis Simulation Test (HST), to explore relationships between role playing and age, sex, verbal intelligence, motor performance and social maturity. The former instrument measures a child's capability at taking attitudes of others which are stereotypic of those roles within one's culture. The latter measure scores the child's ability to play himself in a make-believe setting, in an attempt to "fool" one of the experimenters. They reported a high correlation between role-playing ability and all independent variables except sex.

Another role-taking measure has been developed by Feffer (1970) for use with retarded children. This instrument rates the ability of children to take on the viewpoints of characters they themselves have invented in a story. A child's performance is rated on the basis of how well he maintains the view point of another in his play, and how well coordinated are the various roles he plays within a given story. The validity of the instrument was supported by the findings which indicated a positive relationship between scores on this measure and the chronological and developmental age of normal and educable mentally retarded children.

These instruments have been designed for adult-directed, role-taking, and thus, do not measure a child's capability at the spontaneous invention of various and complex roles within a free play setting. They suggest, however, ways of operationalizing role playing within the spontaneous dramatic play of children as well.

A final play-related behavior studied by researchers is representation of imagined objects, or what Smilansky defined as make believe with regard to objects. Overton and Jackson (1973) have counted the number of behaviors that fall into each of three categories of representation, as a measure of make believe quality. These are: "no representation," in which a child does not act out an action sequence suggested to him, "body part as object," in which an action is acted out and a body part is used to represent missing objects, and "symbolic object," in which an action is acted out and the child uses his body parts correctly to "hold," etc. imaginary objects. The tallying of frequencies in each category provides a quality measure of make believe which is sensitive to individual differences in representational capability.

Summary

Operational definitions of play behavior vary greatly according to the specificity with which they distinguish among the major play forms. While some such definitions measure all play behavior, in general, others describe in measureable terms specific play forms, such as exploration, practice play, construction play, dramatic play and games.

A special group of researchers within this latter category have focused on specific play behaviors, which might be considered subconstructs of dramatic play. Smilansky's measurement system, in particular, operationalized six quality criteria for this play form. This is, to date, the most comprehensive measure of dramatic play. Her work was relied upon heavily in this study.

Correlates of Play

Researchers have utilized these instruments and other research techniques to explore the relationships between play in its many forms, and a host of cognitive, educational, affective and demographic variables. Findings resulting from this preliminary play research may serve as the basis for formulation of a theoretical framework concerning play and these other aspects of human development. Of special significance to the theoretical model tested in this study, are the demographic correlates of play suggested by research cited in the final section of this chapter.

Cognitive Correlates of Play

There is a paucity of research aimed at discovering the relationship between play and various cognitive constructs. While many, such as Bruner (1966), for example, contended that play is an invaluable activity in the learning processes of young children, research has not verified such hypotheses. Birch (1945), in fact, reported that there was no clearly beneficial effect of previous play experience on children's performance on problem solving tasks requiring the use of a stick as a tool. Devor and Stern (1970) reported that manipulative play with concrete objects did not enhance children's learning of concepts associated with those objects in a classroom setting. Sutton-Smith (1967), however, provided evidence of such a relationship in a study in which boys were found capable of more varied uses with male stereotypic toys, and girls more uses with female stereotypic toys. He concluded that play with objects fosters the learning of a wider repertoire of responses to or uses for those objects.

Several studies have sought to establish the relationship between play and various measures of intelligence. Boynton and Ford (1933), for example, reported a high correlation between the amount of play in which children engage, and I.Q. scores, although their measure of play behavior appears unreliable, as previously discussed. The surprising findings of Seagoe's (1970) earlier cited study, which indicated similarity among the play of gifted, normal and retarded children, and the results of a study by Singer and Singer (cited in Weisler et al., 1976) that showed no correlation between I.Q. and imaginative play, however, would tend to refute these earlier findings. Supposition of a relationship between the quality or quantity of play and cognitive development, in a Piagetian sense, remains yet untested.

There are several studies reporting a relationship between play and a number of measures of language development. Again, both Smilansky (1968) and Lewis (1972) found a positive relationship between levels of sociodramatic play and improvements in vocabulary and verbal skills. Nordquist (1973) reported that increased social play greatly increased the verbal activity of an isolate child, thus encouraging the practice of language. Nicolich (1975) found that words used initially in the imitative play of one and two-year-olds rarely appeared in other spontaneous conversations during a given period. Later, these words declined in such usage, and now predominated spontaneous speech. This suggests that words are first practiced in play before becoming a part of a child's usable vocabulary.

A few studies have attempted to identify influences of play upon the development of other areas of cognitive functioning. Feitelson and Ross (1973), for example, concluded from their study that increases in the level of thematic play are not only associated with, but cause increased innovative and original behavior. Lieberman (1965) found, in her previously-cited study, that a rating of playfulness in children significantly correlated with several measures of divergent thinking.

Some research has focused on the influences of play on the emotional development of the child. One proposed affective function of play is its facilitation of the detachment of the infant from his mother. Rheingold and Eckerman (1969) provided evidence of such in their study of the play of ten-month-olds. They noted that as the number of novel toys provided a child were increased, the greater time away and greater distance he travelled from his mother. Further, Corter, Rheingold and Eckerman (1972) reported that play delayed infants from following their mothers out of the room. While further research is needed to conclude that play is instrumental in lessening the attachment of child to care-giver, such studies indicate the influence of play in lessening extreme dependency behavior.

Little research has been aimed at supporting the assertion of Freud and others that play, particularly dramatic play, serves as a vehicle for reducing tension and anxiety in young children. The previously-cited findings of Amen and Renison (1954), in fact, point to the need for re-examination of this hypothesis.

One body of research has been aimed at discovering the value of play or play training as an educational tool. Smilansky's work represents one group of studies which measured the effects of various dramatic play treatments applied to preschool and school-aged children. As earlier reported, Smilansky found that dramatic play training increased spontaneous dramatic play and resulted in increases in various measures of language proficiency and improvements in numerous affective areas.

Feitelson and Ross' (1973) previously-cited findings of increases in creativity due to higher levels of thematic play ability were the results of such a play training treatment. A similar treatment by Rosen (1974) improved the performance of lower class black Kindergarten children on tests of problem solving and ability to decenter. Freyberg (1973) found that classroom play training resulted in greater imaginativeness, positive affection and concentration in children.

Salz (1973) found that training in "thematic-fantasy," which is organized enactment of folk tales, resulted in increases in dramatic free play, higher scores on intelligence tests and Borkes Interpersonal Perception Test, and improvement on a variety of story memory and story telling tests.

Levenstein (1968) reported that, in homes where mothers were given training in ways to stimulate the play of their children, such children showed great increases in I.Q. and verbal intelligence scores.

Wolfgang's (1974) earlier-cited study provided evidence that play may enhance school performance. In his study of 30 six and seven-year-olds, who were assessed as either extremely delayed or extremely advanced in reading, he found that the latter demonstrated higher levels of symbolic play quality.

A number of other researchers have classified classroom environments according to their conduciveness to play and compared the educational outcomes of these programs. Nalbandian (1971), for example, compared highly-structured preschool classrooms to "open schools," which emphasized play, and discovered "less cognitive failure" in the latter. Weikart (1971) and Karnes (1972), however, in similar studies, found no significant difference between students of the two types of programs. Crabtree (1967) found that children raised in play-oriented environments had higher scores in complexity of ideas and divergent thinking assessments.

Demographic Correlates of Dramatic Play

Of particular interest to this study are a variety of demographic correlates of play and dramatic play behavior suggested in the literature. Various researchers have, for example, related both quantitative and qualitative changes in children's play to age. Seagoe (1970) reported a high correlation between play socialization and age, though her instrument is somewhat suspect, as previously discussed. Switzky, Haywood and Isett (1974) reported that the exploratory play quantity of preschool-aged children was an increasing linear function of the level of complexity of a toy. For two-year-olds, such play quantity was a curvilinear function of this stimulus variable.

Some research has suggested a relationship between age and dramatic play or various subconstructs of that particular play form. Blurton Jones (1967) and Parten (1932), for example, both reported a developmental sequence through which children mature in social play, one of the subconstructs of sociodramatic play previously identified. The earliest play, they proposed, is primarily individual play. A child later advances to parallel play, then limited interaction with others. Finally, he engages in high-level social interaction. Parten further observed that the total time a child devoted to play with others increased with age.

Overton and Jackson (1973) found, in a study of the representation of imagined objects of preschool and primary students, that older children were capable of higher-level make believe with regard to objects than younger children. Both Bowers and London (1965) and Feffer (1970) reported that role-playing ability was highly, positively related to both chronological and developmental age. In Rubin's (1977) earlier-cited study, while preschool-aged children were found to engage in more individual and practice play, older Kindergarten children were observed performing more social and dramatic play. Smilansky (1968) and Griffing (1974), likewise, reported higher scores for older preschool children on Smilansky's dramatic play rating system. It is likely, then, that a valid and reliable measure of dramatic play would yield scores which correlate positively with age.

Though many play studies fail to report sex differences, some research has indicated a relationship between play and sex, as well. Both Smilansky and Lewis, for example, found that females engaged in high quality play than males. In other studies such differences have not been found, however. Bowers and London (1965), for example, found no significant sex differences in role playing ability. Parten (1937) reported no relationship between sex and play leadership.

Research and theory relating to developmental differences between sexes, however, would further support the supposition that females engage in more advanced play at any given age level. Piaget has proposed that play is a cognitive function inseparable from the symbolic function. Much research has documented the faster rate of growth of females in symbolic and language-related cognitions, and in overall maturity, in general (Harris, 1975). It is likely, then, that dramatic play, a highly symbolic behavior, would also emerge earlier within females. Further research is needed, however, to verify this hypothesis.

Finally, several studies have reported a relationship between play and socioeconomic status (SES). Smilansky (1968) found great differences between the play of low and high SES Israeli children. The latter group demonstrated higher quality and more frequent dramatic play. Griffing (1974) and Lewis (1972) replicated these findings in studies of American preschool children.

Child development research aimed at identifying developmental differences between advantaged and disadvantaged children, further supports this hypothesized relationship between play and SES. A wealth of studies have reported vast discrepancies between the scores of lower and upper-class children on both I.Q. and cognitive development tests (Scarr-Salapatek, 1975). It is likely that this developmental advantage of middle class children translates into increased competence in play.

In summary, while research exploring relationships between play and various cognitive, educational, emotional and demographic variables is lacking, predictions may be made, based on the scarce work done in the field. It was predicted in this study, for example, that dramatic play quantity and quality have a positive relationship with age and socioeconomic status. Further, it was hypothesized here that females would have higher ratings in these areas than males.

CHAPTER III

METHODOLOGY

In order to test the reliability and validity of an instrument designed to measure the dramatic and sociodramatic play of young children, thirty-one preschool-aged children were selected and videotaped during free-choice periods in three early educational programs. These videotapes were then rated utilizing this play measurement system. Statistical analysis was done on these ratings in order to test the six hypotheses of this study. This chapter details these procedures.

Sampling

Programs

Three early childhood educational programs in a small Mid-western city were identified: Program A, in which a portion of the children enrolled are members of disadvantaged families, and Programs B and C, in which children attending are primarily advantaged family members. These programs were also chosen because they meet several other important criteria: (1) They allow free play activity for children during at least a portion of the day. (2) They provide, within the classroom environment, props for children to use which encourage dramatic play activity. (3) They allow researchers to come into the classroom to study children's behavior.

While the curricula of these three programs are similar, the following differences exist among the classroom environments of these schools:

(1) While Program A is a full-day child care center, Programs B and C are half-day preschools. (2) Due to the longer school day of those enrolled in Program A, these children have a greater portion of their classroom time devoted to free play activity. In contrast, those in Programs B and C spend a larger percentage of their school day engaged in organized educational activities such as group story time or sharing. (3) The mean number of children per individual classroom is 30 for Program A, while the mean classroom size for both Programs B and C is approximately 12. (Classroom space is proportionately less for B and C, however, making indoor space per child for these three programs about equal.)

Subjects

Thirty-two children between the ages of 3.25 and 6.16 years were selected from these three programs. The mean age for the entire sample was 4.66 years. Eight girls and eight boys, whose families were ranked 35 or below on Hollingshead's (1949) Two Factor Index of Social Position, were chosen from Program A. The mean age for this "disadvantaged" group was 4.67, and the mean socioeconomic status (SES) rank was 62.81 (a high score indicates low SES). Three girls and four boys were chosen from Program B and four boys and five girls from Program C. The families of each of these children were ranked above 35 on Hollingshead's index. One "advantaged" male subject was not used, due to premature departure from the program for summer vacation, reducing the number of subjects to 31. The mean age for this advantaged group after this deletion was 4.64 years, and the mean SES rank was 12.67.

Besides program enrollment, SES and sex, these children were also selected on the basis of willingness of parents to sign permission slips (see Appendix A) and to complete an occupational and educational information form (see Appendix B).

Procedures

Videotaping

Each of the 31 preschool children was videotaped in two separate one-hour observation periods during free choice activity within the early educational program in which they were enrolled. Since the videotaping was done with portable equipment within the classroom, without the aid of an observation booth, the following preparations were made to reduce the reactivity of children and teachers to the researcher's presence: (1) The researcher who did the videotaping made an initial visit to each program with the recording equipment, prior to actual taping; in order to accustom both teachers and children to his presence, and to answer questions of both groups concerning the equipment and his purpose. (2) A "dummy" tape was made on a second visit in order to expose children and teachers to actual recording conditions. (3) On the third and subsequent visits, when data gathering began, every effort was made by the researcher to remain inconspicuous, so as to insure the filming of natural and uninterrupted play behavior. (4) It was the observation of this researcher that children were aware of the camera only during the very initial moments of an observation period. As a precaution, then, several minutes of "dummy" taping were performed before each hour's actual recording was begun.

So as to lessen the influence of time-of-day on children's play ratings, children in Program A, the child care setting, were videotaped once in the morning and once in the afternoon. Children at Program C were rated once in the first hour of the afternoon free play period, and once in the second hour of this period. In Program B, however, only one hour is allowed for such activity per day. Thus, children in this program were always videotaped in the first hour of their morning preschool session.

Only dramatic and sociodramatic play activity were taped during the observation periods. The accuracy of the researcher in determining which activities constitute dramatic play and, thus, ought to be taped was carefully checked. This was done by first taping all classroom activity of four children during half-hour observation periods. The researcher's ratings of Overall Dramatic Play Quantity for these tapes was then compared to those ratings of a second observer. The Chi-square test was used for this comparison. This analysis resulted in 99 percent agreement among raters, and a Chi-square of .10 with 1 degree of freedom; which is not significant at the .05 level. It may be concluded, then, that the researcher's identification of dramatic play did not differ from that of a second observer.

Rating

The taped observations were analyzed to determine the quantity of individual dramatic play and sociodramatic play in which each child has engaged during the two hours of observation. A quality rating was given to the taped dramatic play activity of each child in each of the previously listed nine quality items. The rating sheet found in Appendix C and the instructions in Appendix D were utilized for this rating procedure.

These measurements were done by both this author, the primary researcher of this study, and a second rater. This second rater holds a degree in psychology and has had experience working with young children in educational settings. She was trained in two, two-hour training sessions in which she discussed the rating system with the researcher and viewed and practice-rated sample play tapes. This rater was not informed of the hypotheses of this study throughout the rating period.

To ensure the efficiency of rating, but also to weaken the influence upon this study of the built-in correlation of items scored by the same rater, the following rating procedure was followed: (1) Rater #1 scored Verbal Communication, Play Persistence, and Individual Dramatic Play Quantity upon first viewing of the tapes; and Make Believe (situations), Leadership, Cooperative Play Behavior and Role Diversity during the second viewing. (2) Rater #2 scored Make Believe (objects), Social Interaction and Role Complexity during the first pass through the tapes; and Verbal Communication, Role Diversity and Sociodramatic Play Quantity during the second pass.

Note that, as a further precaution, both raters scored Role Diversity and Verbal Communication items. These scores were compared to determine whether the researcher who was cognizant of the hypotheses of the study would more likely score items in the direction of these hypotheses. This analysis resulted in high correlations between raters. During the first observation for all children, the Pearson product moment coefficient of correlation between raters was for Role Diversity .94 and for Verbal Communication was .99. During the second observation this coefficient for Role Diversity was .97 and for Verbal Communication was .99. These findings indicated that no significant differences existed between the ratings of the two researchers on these items.

Each rater's measurement accuracy was validated by comparing his scores on a three-hour sample tape to those of a second rater. Chi-square and agreement percentages were computed for each quality and quantity item in this comparison. The results of this analysis are presented in Table 1. Chi-square tests revealed no significant differences between rater and validator. No item fell below 80 percent rater agreement level. Relatively high interrater reliability in this study was therefore demonstrated.

A test for rater shift was conducted by comparing the ratings of the primary researchers, over time, on sample tapes. Tables 2, 3 and 4 present the Chi-square and agreement percentages for comparisons of observation 1 and observation 2 ratings, observation 2 and observation 3 ratings, and observation 1 and observation 3 ratings.

Only one item fell below 70 percent agreement. This was Make Believe (situations) between observation 1 and observation 3, where rater agreement was only 54 percent. Chi-square was still not significant in this comparison. The contrast of rating 1 and rating 3 for Sociodramatic Play Quantity, resulted in a Chi-square which was significant at the .05 level. Agreement for this item, however, was still 93 percent. With the possible expception of these two items, then, ratings of these researchers appeared to be quite consistent over time.

Table 1

Frequency Ratings, Agreement Percentages and Chi-square of Ratings of Primary Researchers (R1 and R2) with those of Validating Rater (VR)

Play Item	Frequency Ratings	% Agreement	χ^2 (with 1 df)
Verbal Communication	R1 : 115 VR : 109	95%	.16
Play Persistence	R1 : 6 VR : 6	100%	0
Make Believe (Situations)	R1 : 5 VR : 6	82%	.10
Play Leadership	R1 : 8 VR : 8	100%	0
Cooperative Play Behavior	R1 : 8 VR : 7	87%	.06
Role Diversity	R1 : 7 VR : 7	100%	0
Make Believe (objects)	R2 : 47 VR : 44	93%	.10
Social Interaction	R2 : 10 VR : 11	90%	.04
Role Complexity	R2 : 27 VR : 32	83%	.42
Sociodramatic Play Quantity	R2 : 1735 VR : 1812	96%	1.65
Individual Dramatic Play Quantity	R1 : 440 VR : 429	97%	.14

Table 2

Frequency Ratings, Agreement Percentages and Chi-square of Ratings of Observation 1 (01) Compared with Observation 2 (02)

Play Item	Frequency Ratings	% Agreement	χ^2 (with 1 df)
Verbal Communication	01 : 115 02 : 116	99%	.004
Play Persistence	01 : 6 02 : 6	100%	0
Make Believe (Situations)	01 : 5 02 : 7	70%	.08
Play Leadership	01 : 8 02 : 7	87%	.06
Cooperative Play Behavior	01 : 8 02 : 8	100%	0
Role Diversity	01 : 7 02 : 7	100%	0
Make Believe (Objects)	01 : 47 02 : 47	100%	0
Social Interaction	01 : 10 02 : 9	90%	.06
Role Complexity	01 : 27 02 : 23	84%	.32
Individual Dramatic Play Quantity	01 : 440 02 : 438	99.6%	.004
Sociodramatic Play Quantity	01 : 1735 02 : 1805	96%	1.38

Table 3

Frequency Ratings, Agreement Percentages and Chi-square of Ratings of Observation 2 (02) Compared with Observation 3 (03)

Play Item	Frequency Ratings	% Agreement	χ^2 (with 1 df)
Verbal Communication	02 : 116 03 : 115	99%	.004
Play Persistence	02 : 6 03 : 6	100%	0
Make Believe (Situations)	02 : 7 03 : 8	87%	.06
Play Leadership	02 : 7 03 : 9	75%	.26
Cooperative Play Behavior	02 : 8 03 : 10	78%	.22
Role Diversity	02 : 7 03 : 7	100%	0
Make Believe (Objects)	02 : 47 03 : 48	98%	.01
Social Interaction	02 : 9 03 : 8	88%	.06
Role Complexity	02 : 23 03 : 26	88%	.18
Sociodramatic Play Quantity	02 : 1805 03 : 1861	97%	.86
Individual Dramatic Play Quantity	02 : 438 03 : 476	92%	1.58

Table 4

Frequency Ratings, Agreement Percentages and Chi-square of Ratings of Observation 1 (01) Compared with Observation 3 (03)

Play Item	Frequency Ratings	% Agreement	χ^2 (with 1 df)
Verbal Communication	01 : 115 03 : 115	100%	0
Play Persistence	01 : 6 03 : 6	100%	0
Make Believe (Situations)	01 : 5 03 : 8	54%	.70
Play Leadership	01 : 8 03 : 9	89%	.06
Cooperative Play Behavior	01 : 8 03 : 10	78%	.22
Role Diversity	01 : 7 03 : 7	100%	0
Make Believe (Objects)	01 : 47 03 : 48	98%	.01
Social Interaction	01 : 10 03 : 8	78%	.22
Role Complexity	01 : 27 03 : 26	97%	.02
Sociodramatic Play Quantity	01 : 1735 03 : 1861	93%	4.40*
Individual Dramatic Play Quantity	01 : 440 03 : 476	92%	1.42

*Significant at the .05 level.

Statistical Treatment

Pearson product moment coefficient of correlation was utilized to compare scores of children between the first and second observations. This procedure was performed to determine the reliability of children's play behavior over time.

Principal component factor analysis with orthogonal rotation was used to determine whether quality items on the measurement instrument cluster together into the three hypothesized factors.

Stepwise multiple regression analysis was employed to determine the strength and direction of the relationship between Overall Dramatic Play Quantity and each play quality item, as well as weighted combinations of these. This analysis was utilized to identify the relationship between each quality item and the proportion of Sociodramatic Play Quantity to Overall Dramatic Play Quantity.

Multiple regression analysis was used to explore the relationship between each quality item and age, socioeconomic status and Overall Dramatic Play Quantity, and their weighted combinations.

One-way analysis of variance was utilized to examine the relationship between sex and each quality item. Partial correlation was employed to determine the relationship between each quality item and each of the independent variables (age, socioeconomic status, and Overall Play Quantity) with all other such variables held constant. Finally, Spearman rank-order correlation coefficients were used to check the relationship between socioeconomic status, a rank-order variable, and each quality item.

CHAPTER IV

FINDINGS

The purpose of this study has been to test the validity and reliability of a dramatic play rating instrument, by exploring the interrelationships among and correlates of scores on the various play items contained in this instrument. The findings of this effort are presented in this chapter. The presentation is organized into an examination of reliability findings and then reports on each of the six hypotheses tested here.

Reliability of Play Behavior

Frick and Semmel (1975) have warned that, even with perfect observer agreement, measurements of behavior will be unreliable and will yield meaningless findings, if such behavior is not stable from occasion to occasion. Before the results of this study are reported, then, information regarding the consistency of play behavior over time is presented here.

Pearson product moment coefficient of correlation was used to compare scores of children on each quality and quantity item during the first observation to their scores on these items during the second observation. Table 5 presents these coefficients. All pairs of observations correlate positively and significantly at the .005 level. It was assumed, then, that children's scores on each play item remain relatively consistent from one time period to the next.

Table 5

Correlation of Ratings from the First Observation Period
to Those from the Second Observation Period
for Each Play Item

Play Item	Correlation of Ratings 1 with Ratings 2
Make Believe (Objects)	.67
Make Believe (Situations)	.74
Play Persistence	.46
Verbal Communication	.71
Social Interaction	.57
Play Leadership	.85
Cooperative Play Behavior	.53
Role Diversity	.63
Role Complexity	.76
Sociodramatic Play Quantity	.63
Individual Dramatic Play Quantity	.54
Overall Dramatic Play Quantity	.78

Hypothesis 1

Hypothesis 1 stated that all play items would be highly related and would cluster together into the three following factors: Cognitive Dramatic Play Items [Make Believe (objects), Make Believe (situations), Play Persistence and Individual Dramatic Play Quantity], Social Interaction

Items (Verbal Communication, Social Interaction, Play Leadership, Cooperative Play and Sociodramatic Play Quantity), and Role Items (Role Diversity and Role Complexity).

Zero-order correlations were run among all quality and quantity items. Table 6 presents these coefficients. All intercorrelations among the nine quality items were significant at the .05 level, as hypothesized, except for that between Make Believe (objects) and Cooperative Play. While Sociodramatic Play Quantity correlated positively and significantly with all quality items, correlates between Individual Dramatic Play Quantity and all these items, except Make Believe (objects), failed to reach statistical significance.

Factor analysis was performed on all quality items and Sociodramatic and Individual Dramatic Play Quantity. Table 7 presents the factor loadings of each item. One factor accounted for 84 percent of the variance among items. This factor contained high factor loadings on all items except Make Believe (objects) and Individual Dramatic Play Quantity, as could have been predicted from the previously-cited correlation coefficients. These two items had high loadings on a second factor.

A second factor analysis was performed, this time forcing three factors to be generated from these eleven items. Table 8 presents these results. The majority of items still had their highest loadings on Factor 1. Factor 2, however, now contained Role Diversity, Role Complexity and Social Interaction, though these latter two items had high loadings on Factor 1, as well. Only Make Believe (objects) and Individual Dramatic Play Quantity loaded highest on Factor 3.

Table 6

Intercorrelations Among All Play Items

	Make Believe (objects)	Make Believe (situations)	Play Persistence	Verbal Communication	Social Interaction	Play Leadership	Cooperative Play	Role Diversity	Role Complexity	Sociodramatic Play Quantity
Make Believe (objects)										
Make Believe (situations)	.52									
Play Persistence	.59	.62								
Verbal Communication	.64	.88	.83							
Social Interaction	.50	.69	.67	.77						
Play Leadership	.42	.86	.63	.87	.79					
Cooperative Play	.34	.72	.60	.72	.71	.79				
Role Diversity	.64	.56	.64	.68	.79	.57	.52			
Role Complexity	.74	.71	.62	.72	.71	.62	.50	.78		
Sociodramatic Play Quantity	.54	.75	.85	.92	.79	.84	.75	.70	.72	
Individual Dramatic Play Quantity	.52	.13	.23	.13	-.10	-.16	-.13	.26	.28	-.04

Table 7

Factor Loadings of Play Items in Initial Factor Analysis

Play Items	Factor 1	Factor 2
Make Believe (objects)	.44	.76
Make Believe (situations)	.81	.23
Play Persistence	.72	.38
Verbal Communication	.90	.31
Social Interaction	.87	.14
Play Leadership	.94	-.02
Cooperative Play	.84	-.04
Role Diversity	.66	.48
Role Complexity	.70	.55
Sociodramatic Play Quantity	.92	.19
Individual Dramatic Play Quantity	-.15	.77

Table 8

Factor Loadings of Play Items in Factor Analysis Where Three Factors are Generated

Play Items	Factor 1	Factor 2	Factor 3
Make Believe (objects)	.36	.43	.65
Make Believe (situations)	.83	.25	.20
Play Persistence	.65	.38	.30
Verbal Communication	.90	.32	.26
Social Interaction	.61	.75	-.07
Play Leadership	.89	.33	-.08
Cooperative Play	.75	.36	-.11
Role Diversity	.39	.75	.32
Role Complexity	.50	.58	.41
Sociodramatic Play Quantity	.82	.45	.09
Individual Dramatic Play Quantity	-.09	.01	.84

The initial part of Hypothesis 1, proposing positive relationships among all play items, was partially confirmed, then. Only Individual Dramatic Play Quantity and Make Believe (objects) were exceptions. The second portion of Hypothesis 1 was not confirmed, though. There was no differentiation of items into separate clusters on the first factor analysis, as hypothesized. Only Make Believe (objects) and Individual Dramatic Play Quantity appeared to measure a different construct than all other play items. The second factor analysis, forcing three factors to be generated did, however, result in three clusters of play items which resemble those originally predicted.

Hypothesis 2

Hypothesis 2 stated that Overall Dramatic Play Quantity would be highly, positively correlated with all eleven play items. Further, it was proposed in this hypothesis that Cognitive Dramatic Play Items would have the highest such correlations, Role Items would have lower correlations, and Social Interaction Items would have the lowest, though still positive, correlations with Overall Quantity.

As depicted in Table 9, Overall Dramatic Play Quantity had significant and positive correlations with all eleven play items as hypothesized.

Stepwise multiple regression was performed to identify the relative contribution of each quality item to the variance of Overall Dramatic Play Quantity. Table 10 shows the order in which these variables were entered into the regression, the multiple correlation and R^2 after each entry, and the change in R^2 attributed to the addition of each variable.

No one cluster of items had a stronger association with this variable than any other. The weighted combination of all play items accounted for 94 percent of the variance of Overall Quantity.

Partial correlation was used to control for age, socioeconomic status (SES) and their combined influence in comparing Overall Quantity with quality items. These partial correlations were all still significant, with little change in the strength of association among these items resulting from this analysis. This suggests that these independent items are not confounding variables in the relationship between play quality and quantity. While the correlation coefficients for eight quality items declined only very slightly when the separate and combined influences of these variables were partialed out, the zero-order correlation of Make Believe (objects) with Overall Quantity rose slightly from .75 to a partial correlation of .77 when only age was partialed out.

Hypothesis 2 was, then, only partially confirmed. While Overall Dramatic Play Quantity was positively related to all eleven play items, as predicted, no previously-proposed cluster of items had higher such relationships than any other.

Table 9

Correlations of Age, SES, Overall Dramatic Play Quantity and Sociodramatic Play Quantity/Overall Dramatic Play Quantity to Play Items

Play Items	Age	SES*	Overall Dramatic Play Quantity	Socio./ Overall Quan.
Make Believe (objects)	-.01	.35	.75	.23
Make Believe (situations)	.32	.48	.74	.41
Play Persistence	.30	.35	.88	.35
Verbal Communication	.34	.30	.89	.48
Social Interaction	.43	.43	.66	.74
Play Leadership	.36	.51	.67	.56
Cooperative Play	.30	.45	.61	.58
Diversity of Roles	.34	.33	.75	.49
Role Complexity	.25	.47	.79	.42
Sociodramatic Play Quantity	.30	.39	.87	.58
Individual Dramatic Play Quantity	-.06	.02	.45	-.47
Overall Dramatic Play Quantity	.24	.24		.30
Socio./Overall Quantity	.42	.48	.30	

*Spearman Rank-order Coefficients

Hypothesis 3

Hypothesis 3 stated that the proportion of Sociodramatic Play Quantity to Overall Dramatic Play Quantity (Socio./Overall Quan.) would have a high and positive correlation to all eleven play items.

Table 10 shows positive and significant correlations between eight of these play items and Socio./Overall Quan. Such coefficients for Social Interaction, Play Leadership and Cooperative Play, in fact, remained significant even when SES, age, Overall Dramatic Play Quantity and combinations of these variables were controlled through partial correlation.

Correlations between Socio./Overall Quan. and Make Believe (objects) and Play Persistence were positive but not significant at the .05 level. These correlations remained non-significant when age, Overall Quantity and SES and their combinations were partialed out. The Correlation Coefficient between Socio./Overall Quan. and Individual Dramatic Play Quantity was significantly negative at -.47.

Table 11 shows the change in the correlation coefficients between Socio./Overall Quan. and other critical variables when age, SES and Overall Quantity were controlled through partial correlation. These variables had significant zero-order correlations with this independent variable, but became non-significant correlates as the partial correlation analysis proceeded.

When age was partialed out, the correlation coefficient between Make Believe (situations) and this independent variable dropped from .41 to a partial correlation of .33 which was no longer significant at the .05 level. Further partialing resulted in still lower such coefficients between these two variables.

Role Complexity remained significant when only age was partialed out, but became a non-significant correlate when SES and Overall Quantity and their combination were controlled. This item's correlation coefficient declined from .79 to .36 when age was partialed out; to .31 when Overall Quantity was partialed out; and to .13 when SES was partialed out. The latter two coefficients were not significant at the .05 level. When combinations of these variables were partialed out, the correlation of Role Complexity to Socio./Overall Quan. dropped still lower.

Role Diversity remained a significant correlate of Socio./Overall Quan. when each independent variable was individually partialed out. When the combination of age and Overall Quantity were partialed out, this coefficient was still significant with a value of .36. When SES and age together were controlled, however, this correlation coefficient declined to .27 which was not significant at the .05 level.

One interesting finding was that when Overall Quantity was combined with both SES and age and partialed out of this analysis, the partial correlation of Role Diversity with Socio./Overall Quan. was still .27.

Verbal Communication remained a significant correlate through all partial correlation processes except when the combined influence of age and SES were partialed out. Interestingly, when the combination of Age, SES and Overall Quantity were controlled, the correlation between Verbal Communication and Socio./Overall Quan. became, again, significant at the .05 level. Further, when SES and Overall Quantity were controlled together, this correlation exceeded the value of the original, zero-order coefficient between these two variables.

Hypothesis 3 was, then, partially confirmed. All but three items (Make Believe (objects), Play Persistence and Individual Dramatic Play Quantity) did significantly, positively correlate with Socio./Overall Quan. as predicted.

Table 10

Stepwise Regression of Quality Items Upon Overall Quantity: Multiple Correlation Coefficient, R^2 and Change in R^2

Step entered	Multiple R	R^2	R Square Change
1. Verbal Communication	.89	.79	.79
2. Play Persistence	.92	.85	.07
3. Make Believe (objects)	.95	.89	.04
4. Role Complexity	.95	.91	.01
5. Social Interaction	.96	.91	.01
6. Role Diversity	.97	.93	.01
7. Cooperative Play	.97	.94	.01
8. Play Leadership	.97	.94	.002
9. Make Believe (situations)	.97	.94	.0002

Table 11

Correlations of Play Items with Sociodramatic Play Quantity/ Overall Dramatic Play Quantity When Age, SES, and Overall Quantity are Patialed Out

	Make Believe (situations)	Role Complexity	Role Diversity	Verbal Communication
Zero-order correlation	$.41^*$	$.42^*$	$.49^*$	$.48^*$
Controlling for Age	.33	$.36^*$	$.40^*$	$.39^*$
Controlling for SES	.28	.24	$.39^*$	$.43^*$
Controlling for Overall Quantity	.30	.32	$.41^*$	$.48^*$
Controlling for Age and SES	.15	.13	.27	.32
Controlling for Age and Overall Quantity	.24	.30	$.36^*$	$.42^*$
Controlling for SES and Overall Quantity	.19	.12	.35	$.52^*$
Controlling for Age, SES and Overall Quantity	.10	.06	.27	$.46^*$

*Significant at the .05 level.

Hypothesis 4

It was predicted in Hypothesis 4 that age would be highly positively correlated with all eleven play items. Table 9 shows that age correlated significantly with only two such items--Social Interaction and Play Leadership. While relationships between age and all other quality items were positive, they were not significant at the .05 level. These variables remained non-significant when SES, Age and Overall Quantity and their combinations were partialed out. Table 9 shows that age was also positively, significantly correlated with Socio./Overall Quan.

Table 12 presents the correlation coefficients between Social Interaction and Play Leadership when age, SES and Overall Quantity and their combinations were partialed out. Social Interaction remained significantly correlated with age through all these partial correlation analyses. The correlation between Play Leadership and age increased from .36 to .38 when SES was controlled. This coefficient declined, however, to .28 when Overall Quantity was partialed out; and to .29 when both SES and Overall Quantity were partialed. The latter two partial correlation coefficients are not significant at the .05 level.

One interesting trend was the increase in the correlation of all play items with age, when SES was controlled. None of these increases, however, raised any of the previously non-significant correlation coefficients to the .05 significance level.

Hypothesis 4 was not confirmed, then, with only two items, Social Interaction and Play Leadership, having the predicted significant and positive associations with age.

Table 12

Correlations of Play Items With Age When SES and Overall Quantity are Partialed Out

	Social Interaction	Play Leadership
Zero-order correlation	.43*	.36*
Controlling for SES	.47*	.38*
Controlling for Overall Quantity	.38*	.28
Controlling for SES and Overall Quantity	.43*	.29

*Significant at the .05 level

Hypothesis 5

Hypothesis 5 stated that SES would be significantly, positively related to all eleven play items. Table 9 presents the Spearman rank-order correlation coefficients computed between each of these quality and quantity items and SES. All such relationships between SES and quality items were significantly positive at the .05 level. While SES was significantly, positively correlated with Sociodramatic Play Quantity, this variable did not correlate significantly with Individual Dramatic Play Quantity or Overall Dramatic Play Quantity.

Partial correlation was employed to control for Age and Overall Quantity in these comparisons. The results of this statistical treatment must be interpreted cautiously, however, since SES is a rank-order variable and not, technically, of an adequately high measurement level to be entered into such a correlation analysis.

When Pearson product moment coefficient of correlation was computed between SES and all nine quality items, only Make Believe (situations), Social Interaction, Cooperative Play Behavior and Role Complexity remained significant correlates of this rank-order variable. Table 13 presents all nine of these coefficients and subsequent partial correlations when age and Overall Quantity and their combination were controlled.

When age was partialed out, correlations between most quality items and SES increased. The coefficient of Play Leadership, in fact, rose from .34 to .36, thus surpassing the .05 significance level.

The coefficient of Role Diversity and SES also rose to statistical significance when age was partialed out, increasing from a zero-order coefficient of .35 to a partial correlation of .36.

When Overall Quantity was controlled, only Social Interaction, with a correlation with SES of .41; and Role Complexity, with such a correlation of .52, were significant correlates of this variable. When the combined influence of Overall Quantity and Age were partialed out, Social Interaction was still significantly correlated to SES with a coefficient of .45; and Play Complexity had a significant correlation with this variable of .53.

Hypothesis 5 was generally confirmed, then, with all items except Individual Dramatic Play Quantity having high and positive correlations with SES.

Table 13

Pearson Product Moment Coefficients of Correlation of Play Items With SES When Age and Overall Quantity are Partialed Out

Play Items	Zero-order Correlations	Controlling for Age	Controlling for Overall Quantity	Controlling for Age and Overall Quantity
Make Believe (objects)	.33	.34	.23	.23
Make Believe (situations)	.39*	.41*	.32	.33
Play Persistence	.15	.14	-.16	-.16
Verbal Communication	.24	.24	.02	.03
Social Interaction	.43*	.50*	.41*	.45*
Play Leadership	.34	.36*	.24	.26
Cooperative Play Behavior	.37*	.38*	.28	.29
Role Diversity	.35	.36*	.25	.27
Role Complexity	.51*	.52*	.52*	.53*

*Significant at the .05 level

Hypothesis 6

Hypothesis 6 proposed that females would have higher play item scores than males.

One-way analysis of variance was utilized to explore differences in play quality and quantity between sexes. Sex differences were significant at the .05 level for only one play item--Individual Dramatic Play Quantity. In this case males had higher scores than females. Table 14 presents the results of this analysis. Tests for interactions between sex and other independent variables were not possible due to the small sample size.

Hypothesis 6 was rejected, then. Only one item, Individual Dramatic Play Quantity, revealed significant sex differences.

Table 14

One-Way Analysis of Variance Table: Sex on Individual Dramatic Play Quantity

Source	Sum of Squares	df	Mean Square	F
Sex	421.87	1	421.87	6.58*
Within Groups	1858.24	29	64.08	

Group	Mean
Male	11.92
Female	4.54

*Significant at the .02 level

Relative Contribution of Independent Variables

A multiple regression analysis was done to determine the relative influence of Overall Dramatic Play Quantity, age, SES and Socio./Overall Quan. upon each quality item. Table 15 presents the relative contribution of each of these independent variables considered in the hypotheses to the variance of each dependent (quality or quantity) variable. Overall Quantity accounted for at least 50 percent of the variance and is entered first in the regression on each quality item except Social Interaction. Socio./Overall Quan. was entered first for this item and accounted for 55 percent of the variance.

Socio./Overall Quan. was entered second in the regression on each quality item except Social Interaction, as previously discussed, and Role Complexity, in which it was entered last.

Age and SES were always entered third or fourth (except for Social Interaction where they were second and third) and contributed little additional variance to each quality item. The multiple correlation of this set of independent variables and each quality item was highly significant. Together these four independent variables contributed between 55 and 85 percent of the total variance of the quality items.

Table 15

Stepwise Regression of Independent Variables on Quality Items: Multiple Correlation Coefficient, R^2 and Change in R^2 Attributed to Entry of Additional Variable

Step Entered	Multiple R	R^2	R^2 Change
Regression on Make Believe (objects)			
1. Overall Quantity	.75	.56	.56
2. Age	.77	.59	.04
3. SES	.78	.61	.02
4. Socio./Overall Quan.	.78	.61	.0002
Regression on Make Believe (situations)			
1. Overall Quantity	.74	.55	.55
2. SES	.77	.59	.05
3. Age	.78	.61	.02
4. Socio./Overall Quan.	.79	.62	.003
Regression on Play Persistence			
1. Overall Quantity	.88	.77	.77
2. Socio./Overall Quan.	.88	.78	.01
3. SES	.89	.80	.01
4. Age	.89	.80	.001
Regression on Verbal Communication			
1. Overall Quantity	.89	.79	.79
2. Socio./Overall Quan.	.91	.84	.05
3. SES	.92	.85	.01
4. Age	.92	.85	.001
Regression on Social Interaction			
1. Socio./Overall Quan.	.74	.55	.55
2. Overall Quantity	.87	.76	.21
3. Age	.88	.77	.01
4. SES	.88	.77	.01

Table 15 (continued)

Step Entered	Multiple R	R^2	R^2 Change
Regression on Play Leadership			
1. Overall Quantity	.67	.45	.45
2. Socio./Overall Quan.	.77	.59	.14
3. Age	.77	.60	.01
4. SES	.77	.60	.002
Regression on Cooperative Play			
1. Overall Quantity	.61	.37	.37
2. Socio./Overall Quan.	.74	.54	.18
3. SES	.74	.55	.001
(Age not entered)			
Regression on Role Diversity			
1. Overall Quantity	.75	.56	.56
2. Socio./Overall Quantity	.80	.64	.07
3. Age	.80	.64	.004
4. SES	.80	.65	.004
Regression on Role Complexity			
1. Overall Quantity	.78	.62	.62
2. SES	.85	.72	.10
3. Age	.85	.73	.01
4. Socio./Overall Quan.	.85	.73	.001

CHAPTER V

DISCUSSION

This chapter contains, first, a discussion of the findings of this study as they relate to the original theoretical play model presented here, and to the previous empirical and theoretical work done in the field. Second, it includes an overall summary of these findings. A final section of the chapter provides a detailed examination of the major limitations of the study.

Discussion of Findings

This discussion of findings is organized into two major sections. One brief initial section explores the results of various tests of reliability of the play rating instrument examined in this work. A second section analyzes findings which relate to the validity of the instrument. Included in this portion of the chapter are analyses of each of the six hypotheses tested in the study.

Reliability

Rater agreement. The findings of the study indicated a high degree of agreement between the two primary researchers, between each primary researcher and a validating rater and among the ratings of each primary researcher from one occasion to the next. The correlation coefficients resulting from the comparison of scores on the two items coded by both researchers (Role Diversity and Verbal Communication), for example, exceeded .94.

Agreement between each primary researcher and a second rater always surpassed 80 percent as was shown in Table 2. Lowest agreement in this comparison occurred in the rating of Role Complexity (83%) and Make Believe (situations) (82%). Examination of actual frequency scores on these two items reveals only slight differences between the two raters, however, suggesting that the small sample size (4 children) used in this analysis may have contributed to these lower agreement percentages.

Finally, each researcher's ratings of a sample tape, from one time period to the next, remained relatively stable, as shown in Tables 2, 3, and 4. Only one item, Make Believe (situations), fell below a 70 percent agreement level during this analysis. The reliability of this item is suspect, then, since it also yielded a low agreement percentage in the previously-cited rater agreement analysis. A careful re-examination of the rating instructions for this item is warranted.

In the rating of this item, the researchers may have confused verbal declarations which stand for play situations with other types of statements made in the play theme. For example, a researcher may have on occasion rated statements which merely identified objects or characters as instances of Make Believe (situations). These statements would have been thus improperly rated. Only when statements refer to objects or characters in relation to a play setting are they counted as Make Believe (situations).

Statements such as "Let's say this is a boat," or "Let's say we are sailors," then, would not be instances of this particular make believe behavior. "The boat is sinking," however, or "The sailors are drowning," would be counted. Distinctions between statements of setting and these other play verbalizations ought to be clarified in the rating instructions.

Reliability of play behavior. The correlation coefficients computed between ratings of children's play during the first observation and ratings during the second observation were moderate to high (.46 to .85) in a positive direction, as presented in Table 5. Play Leadership was the most stable with such a correlation coefficient of .85. Play Persistence, Cooperative Play, Individual Dramatic Play Quantity and Social Interaction had the lowest correlations between the two observation periods, with coefficients of .46, .53, .54, and .57 respectively.

These statistics were influenced, in a downward direction, by the tremendous variability of classroom environments from one observation to the next. For example, Play Persistence, the least stable behavior, was greatly influenced by the availability, during a particular observation period, of alternative non-dramatic play activities. In one period of time, for instance, a child would persist, undistracted, at a given favorite role. But in a second observation, that child would be continually attracted away from his dramatization to the art table, where a new art medium had just been made available.

Social Interaction, as another example, would be greatly influenced by whom and how many playmates were in school on a given day.

Construct Validity

The construct validity of the instrument was examined in two primary ways. First, proposed interrelationships between all play items, stated in Hypothesis 1, were tested. Second, relationships between play items and various independent variables, posited in Hypotheses 2 through 6, were explored. The findings of the study concerning these hypoteheses are discussed here.

Hypothesis 1: Interrelationships among play items. The intercorrelations among all play quality items were significant and positive, as presented in Table 6, with the exception of the correlation between Make Believe (objects) and Cooperative Play Behavior (.34). This correlation was not significant at the .05 level. While Sociodramatic Play Quantity was significantly, positively related to all quality items, Individual Dramatic Play Quantity correlated highly only with Make Believe (objects).

To determine if play items clustered into the proposed three factors (Cognitive, Role and Social Interaction Items), a factor analysis was performed. The initial analysis allowed an unknown number of factors to be generated, so long as each additional factor had an eigenvalue of greater than one. The results of this analysis are displayed in Table 7. All but two items loaded most highly on one factor. As could be predicted from the previously-cited intercorrelations, Make Believe (objects) and Individual Dramatic Play Quantity loaded most highly on a second factor.

Before a thorough theoretical consideration of these two factors was undertaken, a second factor analysis was performed, this time forcing three factors to be generated from the play items. The results were reported in Table 8. Most items still loaded highest on factor 1, and Individual Dramatic Play Quantity and Make Believe (objects) loaded highest, in a separate cluster, on factor 3. Now, however, the two proposed Role

Items, Role Diversity and Role Complexity, loaded highest on factor 2. Social Interaction also loaded highest on this factor, but had a high loading on factor 1 as well.

Since these factor analyses did not yield a factor model identical to that hypothesized, the clusters of items generated here had to be renamed and conceptually explained. Based upon the findings of the initial factor analysis, the two primary factors were now labelled _Sociodramatic Play Item_ (which included all items loading highest on factor 1 in the first analysis) and _Individual Dramatic Play Items_ (which included Individual Dramatic Play Quantity and Make Believe (objects).

Items which were previously defined as Social Interaction Items in this study (Verbal Communication, Play Leadership, Cooperative Play Behavior, Social Interaction and Sociodramatic Play Quantity) were, conceptually, quite comfortably subsumed under the Sociodramatic Play Items label. These behaviors were social behaviors, they were performed whithin dramatic play settings and could, therefore, be easily conceptualized as basic sociodramatic elements.

More problematic was the labeling of Play Persistence and Make Believe (situations), which were originally identified as Cognitive Items and were considered a part of all dramatic play activity, as Sociodramatic Items. Similar difficulty arose in placing Role Diversity and Complexity, previously thought to be purely measures of content of roles of all dramatic play, into this same category.

This researcher observed, however, that these four behaviors occurred with far greater frequency within the context of social play. While Make

Believe (situations) did not initially appear an entirely social behavior, for example, an examination of play rating instructions (Appendix D) revealed that performance of this item required the verbal articulation of a play situation. It has been argued here, that this verbalization was more likely to occur in a social setting.

The previously-cited research of Smilansky (1968), Lewis (1972) and Nordquist (1973), all reporting increases in language production associated with increased social play quality and quantity; have supported this contention. The high correlation of Verbal Communication to Sociodramatic Play Quantity (.92) in this study further verified this position.

Make Believe (situations), then, it has been proposed, loaded most highly on the Sociodramatic Play Quality factor, because its performance required verbal behavior which was fostered by social contact.

Play Persistence was, likewise, enhanced by a social setting. This researcher observed that a child played longer in a role when his play theme was enriched by the suggestions or make believe statements of others, or by others' reactions to his own ideas.

In essence, the sociodramatic play observed in this study resembled that described in the previously-cited work of Garvey (1974). She defined social play as a series of behaviors, in which the action of one player is highly contingent upon the actions of one or more other players. The play theme is developed and maintained, then, through this action-reaction process.

Individual play, which lacks this process, did not in this study usually last for as long a time. Certainly, other factors contributed to the capability of a child to persist in a role. Attention span, or other cognitive variables, for example, might have contributed to the variance of this item. These and other non-social influences likely accounted for the relatively lower loading of Play Persistence on factor 1.

The enrichment of one's play theme through the participation of other players, it is proposed here, has also contributed to the high loadings of Role Diversity and Complexity upon this newly-designated Sociodramatic Play Quality cluster. This researcher observed, for example, that many of a child's enactments within a role or his actual roles were derived from the modeling of or direct suggestion from other players. Role Diversity and Complexity are both, then, fostered by the participation of others.

The relatively lower loadings of these two items on factor 1 during the initial factor analysis, however, can be attributed to a host of other environmental or developmental variables which influence one's play content. The experiences which a child has had away from school, for example, from which he may draw many of his play roles and themes, would certainly influence that child's ability to formulate complex and diverse roles. Creativity, which Feitelson and Ross (1973) explored in relation to play behavior, and many other areas of cognitive functioning would also effect a child's generation of enactments and roles.

In sum, it has been hypothesized that the nine items which comprise this first factor, are all highly related because they each measure some quality aspect of a child's dramatic play in social settings. For this reason the label Sociodramatic Quality Items has been assigned to this cluster. The correlations between each of these items and Sociodramatic Play Quantity were very high, supporting this conceptual framework. The somewhat lower correlations between these items and Social Interaction suggested that the mere presence of other players, rather than the number of other players in a child's play theme, was most influential upon these variables.

Another possible cause of the high interrelationship among these nine items, however, might be statistical artifact. These items may have clustered together merely because of a built-in correlation among items rated by the same researcher. If this is the case, correlations between items rated by a single researcher will be higher than coefficients computed when comparing items scored by one researcher to items scored by the second researcher.

The following procedure was used to test for this possibility: (1) The mean of correlations between items scored by a single rater was calculated for each researcher. (2) The mean of correlations between pairs of items, where one item was rated by one observer and the other was rated by the second observer, was computed. (3) The means derived from step 1 were compared to the mean computed in step 2 to check for a difference between correlations of items scored by a single rater and correlations of items scored across raters.

The mean correlations derived in step 1 were .76 for researcher #1 and .74 for researcher #2. The mean correlation computed in step 2 was .73. Correlations of items rated by a single rater, particularly those of researcher #1, are higher, then, than those computed for items rated across researchers. This difference appears minimal, however. It is concluded here that this built-in correlation of items was not high enough to seriously influence the findings of the study. These high intercorrelations, then, are assumed to reflect genuine positive associations between these nine play behavior items.

Factor 2 in the initial factor analysis was labelled Individual Dramatic Play Quantity. The items contained herein were, thus, found to measure something quite different than the other play items.

Based upon the observations of this researcher during the study, Individual Dramatic Play has been conceptualized here as play which is highly shaped by the immediate physical environment and by the objects within that environment. The roles which children adopted when engaged in this form of play were to a great extent dictated by these objects. In contrast, sociodramatic play was highly shaped by interaction with other players. The roles were not selected, generally, on the basis of physical props available, but were formulated through the contribution by all players of imaginative elements which reflected the particular schemas that each child wished to play out.

Interestingly, this latter play form better meets Piaget's criteria of play behavior--assimilation of reality to one's existing cognitive schemas. In individual dramatic play, the process of accommodation of one's schemas to reality appears to have had a stronger influence over children's action.

Piaget (1952) distinguished imitation from play as the pure accommodation of previously learned behaviors to models present in the physical environment. In infancy play and imitation are opposite poles--play being the playful (or "ludic," in Piaget's words) repetition of previously-acquired schemas, and imitation being the absolute adaptation of these for the purpose of copying a person or thing in one's real world.

After the development of symbolic thought, however, both imitation and play contribute to a child's ludic activity. Pure assimilation now serves as the basis of play, that element which distorts reality to a play theme. Deferred imitation tempers play action, as the child also accommodates his behavior to absent behavioral models.

Piaget pointed out that no activity in the pre-operational stage of development is purely play or imitation. Rather, whether an activity is playful or imitative in character is determined by the relative contribution of these two cognitive processes, pure assimilation and pure accommodation, to that activity.

The argument has been developed here that interaction with other players leads to a greater primacy of assimilation over accommodation, as reality becomes increasingly distorted by the contribution, by each player, of imaginative additions to the play theme. While imitation still plays an important role, the copying of specific role models or the playing out of specific real situations declines. The primary result of such social activity is now the creation of a unique and imaginative world. It has been proposed that Individual Dramatic Play, while still play activity, involves the more direct imitation of role models.

An example will clarify this proposition. Individual Dramatic Play was characterized by a child's use of objects to play out a role. One child, as an example, used a set of toy dishes to "cook" a meal in a miniature stove. Here, the props were used as adults might use real such objects, i.e., the stove was used as a stove, the toy pizza dish became a pizza dish, etc. These props, then, tended to dictate the play activity of this child. They appeared to call out in her a desire to emulate Mother or Father's use of these objects at home. The role lacked far-fetched or highly imaginative themes.

In contrast, a group of children were playing "house." Initially, toy dishes, clothing and a telephone were used to play out adult roles. Soon, however, a "cat" entered their home and stole one player's glasses. The police were quickly called. Then, horrible monsters attacked. A toy broom became a "gun," to shoot the intruders. The toy table became a cave in which to hide. The very unreal nature of occurrences in this play theme, and the use of objects in quite imaginary ways, indicated that assimilation of reality, rather than accommodation to it, has primary influence over this behavior. In the former example, while pure assimilation was still at work, accommodation of behaviors was a more powerful force in the shaping of this child's activity.

In sum, this second factor, Individual Dramatic Play Quality Items, is a measure of the quality of a child's isolate dramatic activity. It has been argued here, contrary to Piaget's assertion, that individual dramatic play is a cognitively different phenomenon, containing a stronger contribution of imitation (or pure accommodation) to this play action.

Lack of empirical evidence backing this theory has rendered this discussion mere speculation. Two pieces of information uncovered in the study do, however, lend some credibility to this perspective. First, Make Believe (objects) did load highest on factor 2, along with Individual Dramatic Play Quantity. This points to the greater objects orientation of this form of play, which has been proposed in this theory.

Second, Individual Dramatic Play Quantity did not correlate significantly with SES. Sutton-Smith (1972) concluded, from his previously-discussed observations of children, that imitation, or modeling of adult behavior, is universal. Sociodramatic play, he contended, as well as construction play and contesting, are highly shaped by environmental and cultural factors. To the degree that Sutton-Smith's definition of imitation resembles that of Piaget, the finding that no SES differences existed in Individual Dramatic Play Quantity, then, supports this conceptualization of Individual Dramatic Play. For if Individual Dramatic Play is, indeed, ludic activity which is more greatly tempered by imitation than other play forms, a quantity measure of this activity would not have as strong a relationship to SES or other cultural or environmental influences.

SES is, however, positively, significantly related to Make Believe (objects), the second Individual Dramatic Play Item. Its relatively low correlation in comparison with most other play factors, however, suggests a lower influence of home environment upon this item, as well. Further research is, of course, needed to verify this hypothesis. Suggestions for the empirical testing of this assertion are presented in a later chapter.

The second factor analysis performed revealed a breakdown of Sociodramatic Play Quality Items into two separate factors. Factor 1 has now been named Social Interaction Items. Factor 2, in this second analysis, which includes Role Diversity and Complexity and Social Interaction, has now been labelled Role Quality Items.

Role Diversity and Complexity loaded highest on this latter factor, as they were direct measures of the content of children's roles, as initially hypothesized in this study. Social Interaction loaded highly on this factor, it has been proposed, since it was essentially a measure of the diversity of roles played by others in a child's play theme (See Appendix D). This item has, in fact, probably been misnamed. The label "Diversity of Other's Roles" might better fit this variable, since it was rated by counting the number of other persons which took on play roles within each theme which a child played. A child was counted twice, then, if he appeared in two separate play themes of the rated child.

Role Complexity was, then, a measure of play quality within a given role. Role Diversity was a measure of the variability of a child's own adopted roles in a given observation period. The Social Interaction item utilized in this study, which was a rating of the variety of other role players with which a child interacted in his play, was a measure of the intricacy of that child's entire play theme.

Other factors, such as the sociability of the child or the interest of others in playing with him, also influence the variance of this item. This explains its relatively low loading on factor 2, and its moderately high loading on factor 1, as well.

A separate Social Interaction item might have been rated by counting all the playmates, only once, with which a child had contact during the one-hour observation period. It has been proposed that such an item would have loaded more highly on factor 1, serving as a more pure measure of the social contact of a child in play.

One interesting discovery in the testing of Hypothesis 1, was that both Cooperative Play Behavior and Play Leadership, seemingly opposite poles in terms of social interaction, correlated quite highly (.79). This suggested that Parten's (1937) previously-cited Play Leadership rating system, including both following and leading on a single rating continuum, has confounded two variables. The proposition that high quality players will have high ratings on both leadership and cooperative behavior, signifying a high level of what Smilansky called democratic play behavior, was confirmed in this study.

Another interesting finding was that the correlations between Play Persistence and Role Diversity was quite high (.64), though these items would also seem to oppose one another. Children who did not persist at roles, did not switch quickly from one role to another, as might have been expected. High quality players played roles for longer periods of time, but also played a greater variety of roles during the observation period, than did lower quality players.

Hypothesis 2: Relationship of play items to Overall Quantity. Overall Dramatic Play Quantity was highly and positively related to all nine quality items and to Individual and Sociodramatic Play Quantity. These results were presented in Table 9. This suggested that the actual practice of play is highly related to dramatic play proficiency. This finding points to a need for research exploring the effects of increased dramatic play time in educational programs upon the play skill of young children. The preliminary findings of Smilansky (1968) and Lewis (1972) indicated that increased play time, when coupled with adult play intervention heightened children's play quality.

Overall Quantity was not more highly related to those items initially considered Cognitive Items (Make Believe (objects), Make Believe (situations), Play Persistence), as hypothesized. The results of multiple regression analysis reported in Table 10, did not, in fact, show that any one factor, eigher initially proposed or generated through factor analysis, contributed more to the variance of this variable.

Interestingly, Verbal Communication was entered first in the multiple regression analysis. Again, this lends support to the contention of Smilansky (1968) and other researchers that play encourages the production of language and, perhaps, in turn, leads to increased language skill. No cause and effect relationship has yet been established. Further research is, then, needed in this area.

When Age and SES were controlled through partial correlation, the relationships between Overall Quantity and each item still remained significant and positive. Such findings have suggested that a strong relationship exists between play quality and quantity regardless of age or social class background.

Hypothesis 3: Relationship of Sociodramatic Play Quantity/Overall Quantity to quality items. The ratio of Sociodramatic Play Quantity to

Overall Dramatic Play Quantity (Socio./Overall Quan.) correlated highly with all but three play items, as presented in Table 9. It has been assumed, then, that not only is the amount of time a child spends in all dramatic play activity related to the quality of that play, but the proportion of that time devoted to sociodramatic play also contributed to the variance of play quality items.

The three items with which Socio./Overall Quan. did not significantly and positively correlate were Play Persistence, Make Believe (objects) and Individual Dramatic Play Quantity. Assuming the theoretical framework constructed from the previously-described factor analysis, the latter two play items would not be expected to relate positively with this social play variable, since they measured a quite different behavior than did other play items. Individual Dramatic Play Quantity was, in fact, significantly, negatively correlated with Socio./Overall Quan., with a significant coefficient of -.47. This highlights the fact that performance of individual dramatic play by a child was at the expense of time spent in sociodramatic play.

When Age, SES and Overall Quantity and their combinations were controlled through partial correlation, Social Interaction, Play Leadership and Cooperative Play Behavior still maintained positive, significant correlations with Socio./Overall Quan. The correlation between this latter variable and Verbal Communication dropped below significance only when the combined influence of Age and SES was partialed out. High relationships between these particular variables and Socio./Overall Quan. appeared quite stable, then, across Age, SES and quantity level groups.

Three other variables, though having significant, positive zero-order correlations with Socio./Overall Quan., became non-significant when the influence of various of these independent variables were removed. Make Believe (situations), for example, was not a significant correlate when Age, SES, Overall Quantity or any combination of these variables was partialed out. Its initial high correlation to Socio./Overall Quan., then, must be attributed in part to the contribution of these other extraneous variables.

Role Complexity had a positive, significant zero-order correlation to Socio./Overall Quan. and a significant partial correlation with Age controlled. When SES or combinations of this variable and Age and Overall Quantity were partialed out, however, this coefficient dropped below significance. It must be assumed, again, that these extraneous variables contributed, in part, to the shared variance of these correlates.

The correlation coefficient between Role Diversity and Socio./Overall Quan. was significant, even when Age, SES or Overall Quantity were removed. Only when combinations of these variables were partialed out did this coefficient decline below the .05 significance level.

In sum, most of the Sociodramatic Play Quality Items correlated significantly with Socio./Overall Quan., as hypothesized, independently of the influence of Age, SES and Overall Quantity. Make Believe (situations) and Play Persistence were the only exceptions. The correlations between two Role Items, Role Diversity and Complexity, and this variable were high, but due, in part, to the influences of Age, SES and Overall Quantity upon both correlates. Finally, Individual Dramatic Play Quality Items were not correlated positively and significantly with Socio./

Overall Quan. This latter finding is contrary to Hypothesis 3, but makes theoretical sense, given the newly constructed model presented here.

Hypothesis 4: Relationship of age to play quality items. Age correlated significantly with only two play items--Social Interaction and Play Leadership. These findings substantiate Parten's (1932, 1937) observations that older children interact with more players in a play group and engage in more advanced leadership behavior. Further, Age had a significant, positive correlation with Socio./Overall Quan.

The fact that other relationships between age and quality items failed to reach significance, however, seriously weakened the theoretical model presented here, since the viewpoint of this researcher has been that dramatic play is a direct reflection of cognitive functioning. Assuming that cognitive structures become more complex with age, so, too, ought play behavior from this perspective. These findings did not support this claim.

A number of reasons for the low correlations between age and most play items are considered. First, it has been the observation of this researcher that age differences were greatest among children of disadvantaged families. An examination of mean scores for various quality items for younger and older groups within the very highest and very lowest SES levels lends support to this contention. While mean Play Persistence scores for the youngest and oldest groups at the highest SES level were 4.4 and 4.12 respectively, for example, at the lowest SES level, the youngest group had a mean of 1.2, while the oldest group had an 8.0 play persistence mean. For Role Diversity, the youngest high SES group had a 9.4 mean score and the oldest high SES group had a 9.17 mean. For the lowest SES group, however, the youngest group had a 4.1 mean and the oldest, a mean of 9.8. This trend held true for Role Complexity and Overall Dramatic Play Quantity, as well.

In some cases, at the highest SES level, younger children had even much higher means than older children. For Make Believe (objects), for example, the youngest high SES group had a mean of 35.6 compared with an older group, high SES mean of 14.7. This trend was reversed for the lowest SES group, with youngest children having a mean for this item of 12.3 and the oldest group, with a mean of 32. Unfortunately, the study did not include enough subjects to test for the significance of these interaction effects through analysis of variance. When SES was controlled in the analysis through partial correlation, however, the correlations between age and all quality items did increase, though not to the level of statistical significance. Such a finding hints at an interaction between Age and SES.

If the hypothesized age differences did, in fact, exist only for children of lower SES families, then the major difference between the play level of low and high SES children might be the ability of children of the latter group to develop to a maximum level of play competence quite earlier in life than those of the low SES group. Further research, with a larger sample, is needed to explore more fully this possibility.

A second reason for the low correlations between Age and play quality was the extremely high play scores of two very young high SES children. When these two children were not included in the analysis, the following play items now had these significant correlations with Age: Make Believe (situations), .39, Play Persistence, .40, Verbal Communication, .41, Social Interaction, .51, Play Leadership, .36, Role Complexity, .48, and Role Diversity, .48. Since the sample size was small, these extreme scores had greatly affected, then, these correlations between age and quality items.

While Play Leadership had a significant zero-order correlation with Age, when Overall Quantity was controlled through partial correlation, this coefficient was no longer significant. It must be assumed, then, that this extraneous variable accounted for some of the shared variance of Play Leadership and Age.

In summary, though Hypothesis 4 was not confirmed, limited sample size has restricted exploration of a possible interaction between Age and SES.

Hypothesis 5: Relationship of SES to play quality items. Table 3 presents the Spearman rank order correlation coefficients between SES and each quality item. All were significant at the .05 level. SES was also significantly correlated with Sociodramatic Play Quantity. SES did not have a significant correlation with Individual Dramatic Play Quantity. These findings were in line with those of Smilansky (1968), Lewis (1972) and Griffing (1974), who all reported lower quantity and quality play among low SES children.

Two reasons are suggested for these play differences among SES groups. First, the general discrepancy between the cognitive development of low and middle SES children attributed to the experiential and environmental deficit of disadvantages homes (Scarr-Salapatek, 1975) has translated into these differences in play quality. Second, and related to this first point, differences in parent interaction with children, particularly during play activity, create play quality differences as well. Smilansky (1968) in her observations of disadvantaged and middle class Israeli parents, for example, found that parents of this latter group bought more toys for their children, became more directly involved in their children's play themes, more often encouraged make believe in their children's play, and more often praised children for sustaining play for long periods of time.

When Age was controlled through partial correlation, correlations between SES and each play item increased, as presented in Table 13. This was explained, in part, by the slightly higher mean age of the lower SES group, but might also be evidence of an Age x SES interaction discussed earlier.

When the influence of Overall Quantity was removed, these coefficients declined; except for that of Role Complexity, which was not affected by this partial correlation analysis. While the partialing out of the combined effects of Age and Overall Quantity reduced correlations between most play quality items and SES to very low levels (this correlation between Make Believe (situations) and this variable, for example, was now -.16) these coefficients for two of the Role Items were now higher than original zero-order coefficients. It appeared that both Role Complexity and Social Interaction, then, were highly related to SES, regardless of the age of the children or the amount of time they spent engaging in dramatic play activity.

While all play items had significant Spearman correlation coefficients, only four items, Make Believe (situations), Social Interaction, Cooperative Play Behavior and Role Complexity, were significant correlates of SES when Pearson product moment correlation coefficients were computed. Only two of these, Social Interaction and Role Complexity remained singificant throughout the partial correlation analysis. Lack of significance of most of these correlations may have been due to the application of an interval-level statistical operation upon a rank-order variable. These findings do point to the relative strength of those significant correlates, however, and suggest only moderate strength for those which did not reach significance on Pearson's r.

Hypothesis 6: Sex differences in play quality. One-way analysis of variance revealed only one significant difference between sexes--males having engaged in significantly greater Individual Dramatic Play Quantity. This is contrary to the findings of Lewis (1972) and Smilansky (1968), who reported higher quality play by females. It is compatible with the results of studies by Parten (1973) and Bowers and London (1965) who discovered no such differences in scores on their play rating systems.

While this researcher noted no difference between males and females in play capability as measured by this instrument used in the study, he did find major differences in the types of roles which males and females selected. Males adopted far more active roles. These often involved chasing, fighting and shooting. A second unique characteristic of male play was its heavy reliance upon television in selection of play themes. So very often male children played the roles of current television heroes such as "Spiderman," "Incredible Hulk," or "Starsky and Hutch."

Females engaged in quieter roles. Much of the time females played "house" or assumed other stereotypically female roles, as "Mommy," or "cook." Interestingly, no teacher intervention was observed in children's play for the purpose of suggesting less sex stereotypic roles. (Little teacher participation in the play of children, of any sort, was observed, in fact.) This was true even among teachers who were very committed to eliminating classroom sexism. Research ought to be done on the uses of dramatic play in the learning of non-sexist roles or the reduction of negative sexual or racial attitudes.

The finding that boys engage in more Individual Dramatic Play than girls is puzzling. An examination of means of both sexes for Sociodramatic Play Quantity and Overall Dramatic Play Quantity reveals that males engaged more frequently in these types of play as well. While the female mean for the former variable was 15.1 minutes, for example, the male mean was 20.2. This difference was not significant at the .05 level. For the latter quantity item, the male mean was 32.1 compared to a female mean of 19.5. This difference was significant at the .06 level.

It appears, then, that the significantly greater Individual Dramatic Play Quantity of males reflects their more frequent performance of all dramatic activity. This researcher observed that boys generally tended to engage in more active play. They appeared less interested than girls in quieter classroom activities such as drawing, making puzzles or looking at books. Perhaps a lack of interest in these non-active endeavors accounted for their relatively higher frequency of performance of this highly active behavior during these free choice periods.

Relative contribution of independent variables. Table 16 presents the results of the regression of Overall Quantity, Age, SES and Socio./Overall Quan. upon each quality item. In all but one case (that for Social Interaction), Overall Dramatic Play Quantity accounted for the greatest portion of variance. Of those items upon which this variable was entered first, it accounted for between 37% (for Cooperative Play) to 79% (for Verbal Communication) of this variance.

Socio./Overall Quan. was entered second in five analyses, and was entered first in the regression upon Social Interaction. Age and SES contributed very little variance to any play item.

Thus, it appears that the demographic variables explored here had relatively less influence on play quality than did Overall Quantity or the ratio of Sociodramatic Play Quantity to Overall Quantity. These latter two variables, it must be emphasized, are behavioral variables which may be altered through environmental intervention.

These findings lend support to the proposals of Smilansky (1968), Feitelson and Ross (1973), Rosen (1974), Freyberg (1973), Salz (1973) and Sutton-Smith (1972) that play treatments which increase the dramatic play activity of young children result in increases in play skill. These authors contended that this increased play quality leads to a host of cognitive and social benefits for these children, as well.

Summary

This section is intended to review the previously-discussed findings of this study.

The reliability of behavioral measurements must be established before meaningful interpretation of the findings of a study may be made. Given the reliability findings of this study, both interrater reliability and the reliability of play behavior have been demonstrated.

All items included in this play rating instrument were highly interrelated, except for Make Believe (objects) and Individual Dramatic Play Quantity, which appeared to measure a quite different play behavior than did other items.

Figure 2 presents a modified theoretical model, formulated through a consideration of the findings of the two factor analyses performed on these items. All but the above-mentioned two items cluster together on a very general factor labelled here Sociodramatic Play Quality Items.

All the hypothesized Social Interaction Items did cluster together as originally hypothesized, except Social Interaction. Make Believe (situations) and Play Persistence, originally considered Cognitive Dramatic Play Items, however, also clustered with this factor. All these items together have been labelled Social Interaction Items, and are contained in this more general Sociodramatic Play Quality factor.

Role Complexity and Diversity did cluster together during the second factor analysis performed in the study, as hypothesized. Social Interaction, originally considered a Social Interaction Play Item also loaded on this factor, however. This set of items has been named Role Quality

Items. This factor is also subsumed under the more general Sociodramatic Play Quality factor.

Individual Dramatic Play Quantity and Make Believe (objects) comprise a third unique factor, which is totally independent of Sociodramatic Play Quality Items. This factor has been called Individual Dramatic Play Quality Items.

The correlation coefficients between items within each cluster are indicated in parentheses on this figure.

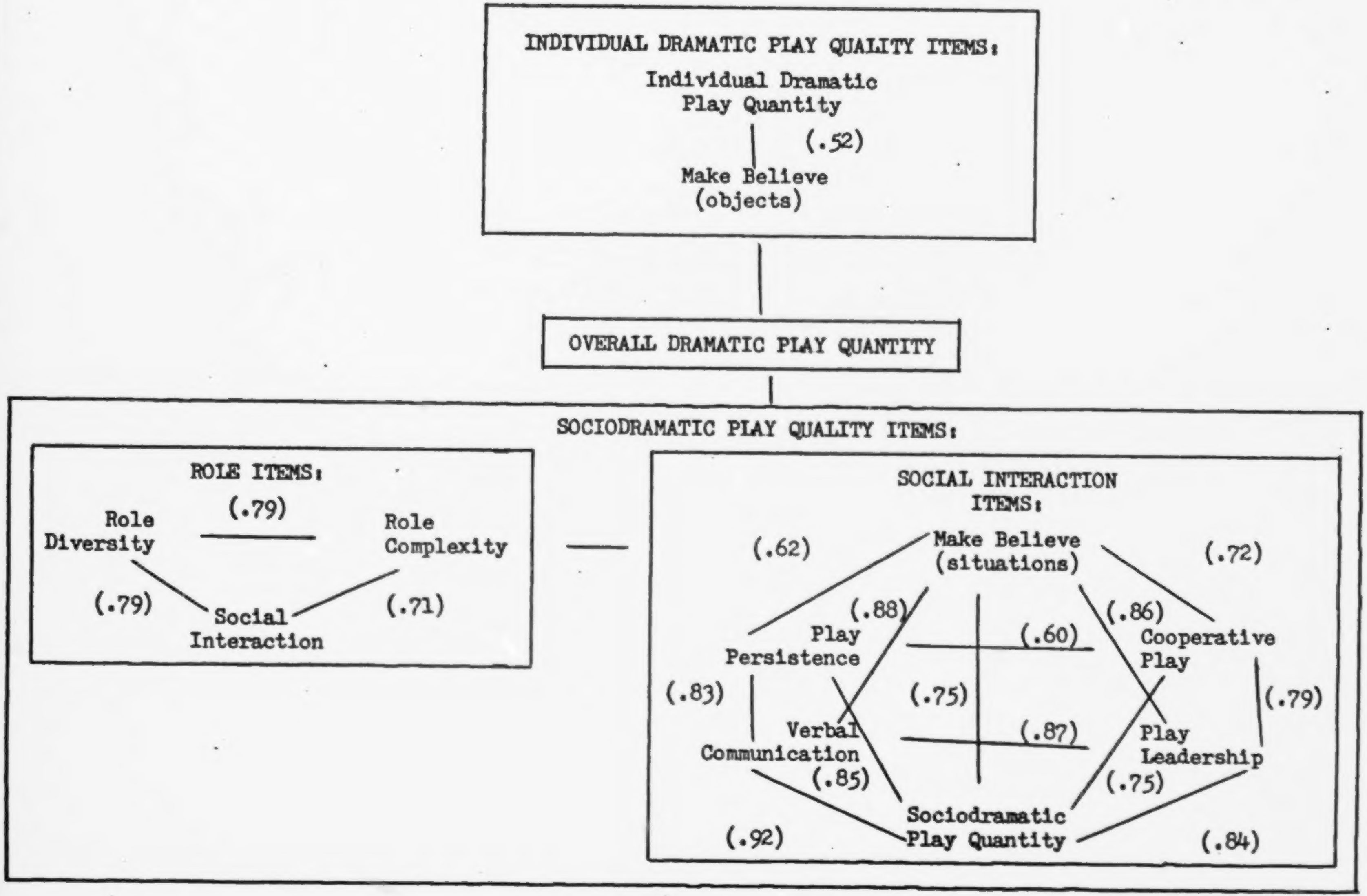
INDIVIDUAL DRAMATIC PLAY QUALITY ITEMS:
Individual Dramatic Play Quantity
(.52)
Make Believe (objects)
OVERALL DRAMATIC PLAY QUANTITY
SOCIODRAMATIC PLAY QUALITY ITEMS:
ROLE ITEMS:
(.79)
Role Diversity
Role Complexity
(.79)
(.71)
Social Interaction
SOCIAL INTERACTION ITEMS:
(.62)
Make Believe (situations)
(.72)
(.88)
(.86)
Play Persistence
(.60)
Cooperative Play
(.83)
(.75)
(.79)
Verbal Communication
(.87)
Play Leadership
(.85)
(.75)
(.92)
Sociodramatic Play Quantity
(.84)

Figure 2: Modified Theoretical Play Model.

Overall Dramatic Play Quantity was highly, positively related to all quality items, though the hypothesized hierarchical relationships between this variable and various clusters of items were not confirmed.

The proportion of time spent in sociodramatic play to all dramatic play activity was found to be highly related to all but two play items. Some of these high relationships, however, were due to the extraneous influence of age, SES and Overall Quantity.

Most play items were not found related to age. Significant relationships were discovered, however, between these items and SES, though some shared variance between these was accounted for by the extraneous influence of Overall Dramatic Play Quantity. Finally no quality differences were found between sexes.

Since these findings do not precisely match the initial theoretical model, the construct validity of this instrument was not wholly confirmed. Given the similarity of the newly generated factor model to that initially hypothesized, and given the degree to which these new findings make theoretical sense, however, the construct validity of the instrument was partly supported. The fact that hypotheses concerning positive relationships between Overall Quantity, Socio./Overall Quan., and SES and quality items were at least partially accepted, further supported the validity of this rating system. Establishment of construct validity is an on-going process, however, and further research-testing of this instrument is needed. Suggestions for such are presented in the last chapter.

Discussion of Limitations

The previously discussed findings must be interpreted cautiously, in light of a number of major limitations of this study.

The study is of Ex Post Facto Design, making random assignment and variable manipulation impossible. There is a greater possibility, then, that unidentified extraneous variables influenced these findings. The results of the study are, generally, less accurate than those yielded by an experimental model.

The design does not allow for testing for cause and effect relationships among variables. While some causal relationships may be suggested from findings presented here, these are purely speculative. No conclusions concerning causality may be drawn from the study, given its design.

The presence of the videotape equipment used in gathering data may have influenced the play behavior of some children. It was the observation of this researcher that this influence was minimal, with reactivity of subjects to recording conditions being greatest in the initial moments of a taping session. Several minutes of "dummy" tape was taken before the actual recording from the tapes used in the study. It was observed that older children were somewhat more aware of the taping procedure than younger children. The measurements taken here, then, were slightly less accurate for these older subjects.

The rating of children's play was somewhat less accurate because this behavior was scored from videotapes. The inability to hear precisely what children were saying or to see the activities of children outside the view of the camera, hampered the rating process, particularly for that researcher not present during the actual classroom taping. The classroom noise picked up by the sensitive recorder further inhibited accurate rating.

The high rater agreement found for this instrument, however, suggests that these conditions did not seriously weaken the precision of this study's measurements.

Only two raters scored all eleven play items. There is a possibility, then, that the high intercorrelations found among nine of these items were due to built-in correlations among items rated by the same observer. The procedure discussed earlier which checked for this influence revealed no serious deviation of correlations derived from items scored by either observer alone from those correlations computed for items rated across observers. This influence, then, appears minimal.

Subjects were from one small mid-western city. This limited sample lessens the generalizability of the study. Further, the sample was limited to children of three educational programs, who were between the ages of 3.3 and 6.2 years of age and were members of families ranked either very high or very low on a measure of SES. The generalizability of the findings of the study is limited to these groups.

CHAPTER VI

RECOMMENDATIONS AND SUMMARY

In light of the findings of this study, a number of research recommendations are made in this chapter. A summary of this entire research effort is then presented in a final section.

Recommendations

A number of recommendations for future play research are provided in this section. These include suggestions for future development and testing of the play instrument used in this study, and its possible uses in the exploration of cognitive correlates of play behavior.

This study ought to be replicated with a number of important revisions, so as to further test its validity. First, the sample size in this second study ought to be larger. This would lessen the influence of extreme scores and allow for a more complete analysis of data, through the use of statistical procedures which could not be applied in this first study due to the small number of subjects. Possible interactions, for example, among variables such as age and SES could be explored through factorial analysis of variance with a larger sample.

Subjects ought to be drawn at random in a second study from a wider variety of educational programs and from other geographic regions. Children from a wider range of SES groups ought to be included. This study looked only at very high or very low SES groups, excluding children from families of the middle social classes.

Some revision of the instrument ought to be undertaken in this replication study. As discussed earlier, the instructions for rating Make Believe (situations) ought to be rewritten. These new directions ought to clarify to the researcher the distinction between statements which articulate play setting and other verbalizations in play.

Another Social Interaction item should be included in the play rating system. This item ought to be rated by counting, only once, all other players with which a child has contact during the entire observation period. It has been proposed here that this new item would load most highly on Social Interaction Items, in contrast to the Social Interaction item used in this current study, which loaded highest on Role Items. Confirmation of this proposition in a replication study would lend support to the theory that this original Social Interaction variable is not a pure measure of the number of social contacts which a child has in play. It would suggest, rather, that this item also reflects the complexity of the entire play theme, serving as an indicator of the number of characters included in each role performance.

The new item would now be labelled Social Interaction Items. The initial variable would be renamed Diversity of Other's Roles.

It is recommended here that a host of other Individual Dramatic Play Quality Items be included in this instrument for analysis. Systematic observation for the purpose of specifying other behaviors which comprise this play activity ought to, first, be undertaken. These behaviors ought to then be operationally defined and included in future play research. Construct validity of these items could be tested by determining whether they, indeed, cluster with the two individual play items identified in this study. An examination of whether this type of play includes more direct and literal modeling of adults and less distortion of reality, would lead to the further validation of these items.

It is recommended that a replication study include a comparison of ratings scored from videotaped play to those scored within the actual classroom. This procedure would check for inaccuracy of findings due to reliance on videotape equipment in the study.

This measurement instrument ought to be used in the exploration of relationships between play and cognitive and affective variables. The association of dramatic play behavior to language development, which was reported by Smilansky (1968) and Lewis (1972), for example, ought to be further studied. More research, like that of Feitelson and Ross (1973) and Lieberman (1965), ought to be aimed at the identification of relationships between this form of play and various measures of creativity. The relationship between dramatic play and the learning of new concepts ought to also be explored. Wolfgang's (1974) discovery that play proficiency is highly related to reading ability ought to be further investigated.

Further research ought to focus on the influences of dramatic play upon the social and emotional development of the child. The assertion of Freud (1948) and other theorists that play reduces a child's anxiety, by allowing him to recreate unpleasant or stressful situations, ought to undergo further empirical testing. The work of Amen and Renison (1954) suggests that anxious children enter more often into constructive play and engage less in the type of dramatic recreation suggested by these theorists. This instrument ought to be used, then, to further search for affective correlates of dramatic play quantity and quality.

This play rating system ought to be utilized to test Mead's (1934) theory that dramatic play facilitates the learning of social roles. The relationship between play ability and socialization, which Seagoe (1970) explored, could be more thoroughly examined using this instrument.

The confirmation of positive relationships of scores on this measure of dramatic play to these areas of human development would support the construct validity of this instrument. Further, it would strengthen the notion that play has an important positive function in the development of children.

This instrument ought to be used to study the educational value of dramatic play and dramatic play training treatments. Researchers such as Smilansky, Feitelson and Ross, Rosen (1972), Freyberg (1973) and Salz (1973) have reported that training children to play increased play capability and fostered growth in various intellectual areas. Educational and developmental outcomes of changes in play behavior attributed to these strategies should be further examined, utilizing this newly-constructed play rating system. The findings of this study that low SES children suffer a play deficit, suggests that effects of these strategies upon the dramatic play of this disadvantaged group ought to be especially explored.

Finally, as Sutton-Smith urged, play research should not be limited to an examination of the play behavior of preschool-aged children. The developmental and educational value of play for elementary school children ought to be explored, as well.

Summary

The purpose of this study was to test the reliability and validity of an instrument designed to measure the dramatic and sociodramatic play activity of young children. This was accomplished through an examination of intercorrelations among and demographic correlates of the following eleven behavior items: Make Believe (objects), Make Believe (situations), Play Persistence, Role Diversity, Role Complexity, Social Interaction, Verbal Communication, Play Leadership, Cooperative Play Behavior, Individual Dramatic Play Quantity and Sociodramatic Play Quantity.

Thirty-one children were selected from local early educational programs on the basis of sex and SES. An attempt was made to select an even number of males and females and to include children from both advantaged and disadvantaged homes. The spontaneous dramatic play behavior of each child was videotaped in two, one-hour observation periods within the classroom. This play was rated using the play measurement instrument developed for this study.

Factor analysis was conducted to test the hypothesis of the study concerning interrelationships among play items. Pearson product moment coefficient of correlation and stepwise multiple regression were employed to test the hypotheses regarding the relationships between each such item and a variety of independent variables.

The reliability of this instrument was found to be high. Both high rater agreement and consistency of play behavior from observation to observation were found in the study. Its construct validity in relation to external variables was only partially confirmed. Most items correlated significantly and positively with SES, Overall Dramatic Play Quantity and also with the ratio of Sociodramatic Play Quantity to all dramatic quantity, as hypothesized.

Only two of these items, Play Leadership and Social Interaction, correlated positively with age. Sex differences were found on only one item, Individual Dramatic Play Quantity. These latter findings were contrary to the predictions of the study.

The items of the instrument did not cluster together precisely as proposed. Through factor analysis it was found that all but two items loaded highest on one general factor. This factor was labelled *Sociodramatic Play Quality Items*. A second factor, containing only Make Believe (objects) and Individual Dramatic Play Quantity, was named *Individual Dramatic Play Quantity Items*.

It was recommended that the study be replicated with certain important modifications of research procedures and of the play instrument. It was suggested, for example, that a number of other Individual Dramatic Play Items be identified, operationalized and included in furutre research. It was further recommended that the rating instructions for Make Believe (situations) be rewritten and that a second Social Interaction item, more sensitive to the level of social contact in play, be added. It was proposed that a replication study include a larger and more random sample of children.

It was also recommended that research, aimed at identifying relationships between play scores and various cognitive variables, be undertaken to further validate this rating system. It was suggested that the instrument be utilized to examine the outcomes of various play training programs within early childhood classrooms.

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